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REVIEWS

THE ECONOMIC JOURNAL

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INTEREST-RATES AND THE PACE OF INVESTMENT

It was until recent years an accepted doctrine that changes of interest-rates powerfully influence the pace at which enterprisers, all taken together, extend or improve their equipment. But this opinion has lately been challenged by the testimony of enterprisers themselves, given in response to systematic enquiry. Some simple developments of theory can, I think, resolve the apparent contradiction, and this it is the purpose of this article to attempt.

The rationale of the doctrine is simple. A piece of equipment is bought because the buyer hopes that its use will at some future time bring in sums of money exceeding those which he will have concurrently to pay out in order to use the equipment, and that the net amounts by which the gross receipts exceed the associated outgoings will together be rather more than equal, when allowance has been made for their futurity, and for his doubt as to the correctness of his estimate of their size, to the immediate purchase price of the equipment. Let x years be the futurity of one such net amount or "net return" whose size he estimates as c; and let 100 r per cent. per annum be the rate of interest which can be had and must be paid on cash now lent for x years, where due payment of interest and principal is treated as certain. Then the equivalent in spot cash of a sum due in x years, if its size were known exactly and for certain to be c, would be $P = c(1 + r)^{-x} = ce^{-\rho x}$. But in fact c is only an estimate or conjecture, and in order to allow for his doubt of its correctness the enterpriser must multiply it by a second coefficient. This doubt will differ in degree for different values of x, and the second coefficient must therefore be written $s = s(x)$. Thus the equivalent of c in *cash free from doubt or deferment* will be $p = cs(x)e^{-\rho x}$. Since the enterpriser need not run his plant at a loss, we can assume that c is non-negative for all x, and if we assume also that ρ stands at one and the same level for all x, we have for the value he sets on an instrument which he has in mind to buy

$$v = \int_0^\infty c(x)s(x)e^{-\rho x}dx.$$

$c(x)$ may be looked upon, if we will, as that specific guess or estimate (regarding the size of the net return whose futurity is x) which has more to be said for it than any other guess *in the light of the enterpriser's existing knowledge*; this estimated size is then multiplied by a coefficient $s(x)$, which will usually be less than unity, to bring into the reckoning the enterpriser's awareness of the insufficiency of his knowledge. The distinction between these two influences on the size of the sum of money which, if it could be looked forward to with certainty, would be equivalent in the enterpriser's mind to his misty prospect of the net return which the instrument will yield at a date x years hence, is blurred and imprecise. Under which heading, for example, are we to put his general awareness of the inventiveness of mankind, which, though no smallest sign may yet appear of any invention which would render the proposed investment obsolete, yet warns him that this obsolescence is possible or even likely? It is on such ground as this that I prefer an altogether different construction, for which, however, I have not yet been able to obtain sufficient critical attention to justify its use here.

One further matter must detain us for a moment. We have spoken, by implication, of the coefficient $e^{-\rho x}$, by which each net return $c(x)$ is to be multiplied, as an allowance for "futurity." Below we shall sometimes call this allowance "time-discounting" and refer to ρ as the rate of "pure" interest. These phrases mean no more than that, because interest greater than zero can be obtained on loans which are regarded as free from risk of default, a future sum c is the equivalent of a present sum smaller than c, when the due receipt of both is *undoubted*. Since this reason for discounting *given* future sums is entirely independent of any question of *doubt concerning the size* of such sums, we need a term to distinguish the former reason, and accordingly use the phrases we have mentioned. Interest on loans free from risk of default is compensation for sacrifice of liquidity; compensation, that is to say, for accepting the possibility that the market value of the "paper" received as evidence of the loan will fall, not through any fear of default, but through a change in the terms on which loans can be obtained. This is a risk of a sort entirely different from that concerning the eventual size of payments to be received in the future; and it is a matter with which we are not concerned, for our problem concerns the *effects*, and not the *causes*, of pure interest-rates.

Let u be the purchase price of an instrument of the kind the enterpriser has it in mind to buy, and y, which we will treat as

continuously variable, be the quantity of such instruments ordered by all enterprisers in a unit of time. Then the conditions of production of such instruments being given, we have $u = u(y)$, and the pace of investment in instruments of this type, before allowance is made for concurrent depreciation of those already in existence, is $z = uy$ per unit of time. On account of their differing beliefs about the course of its future net returns (the form of $c = c(x)$), different enterprisers at any one time will assign different values to such an instrument. If these different valuations are arranged in descending sequence, it can plausibly be suggested that the orders placed for such instruments in any one unit of time will go just so far down this list that the price u, which will be higher the larger the number y of orders concurrently placed, is just equal to the least sanguine valuation which actually yields an order. Let us then mean by v the least sanguine of current valuations which actually results in an order, and accordingly assume that at all times $u = v$. We can then write $y = y(v)$. We are now concerned with three elasticities:

that of v with respect to ρ, namely $\eta_{v\rho} = \dfrac{dv}{d\rho}\dfrac{\rho}{v}$,

that of y with respect to $u = v$, namely $\eta_{yv} = \dfrac{dy}{dv}\dfrac{v}{y}$,

that of $z = uy = vy$ with respect to ρ, namely

$$\eta_{z\rho} = \frac{dz}{d\rho}\frac{\rho}{z} = \frac{d(vy)}{d\rho}\frac{\rho}{vy}.$$

We have:

$$\frac{d(vy)}{d\rho}\frac{\rho}{vy} = \left(\frac{dv}{d\rho}y + \frac{dy}{d\rho}v\right)\frac{\rho}{vy} = \frac{dv}{d\rho}\frac{\rho}{v} + \frac{dy}{d\rho}\frac{\rho}{y} = \eta_{v\rho} + \eta_{y\rho}$$

$$= \frac{dv}{d\rho}\frac{\rho}{v} + \frac{dy}{dv}\frac{v}{y}\cdot\frac{dv}{d\rho}\frac{\rho}{v} = \eta_{v\rho}(1 + \eta_{yv}).$$

If we prefer to define the pace of gross investment in instruments of a given kind as the *quantity* of them produced in a unit of time, rather than as the money-value of this quantity—that is to say, as y rather than as uy—then we have

$$\eta_{y\rho} = \frac{dy}{d\rho}\frac{\rho}{y} = \frac{dy}{dv}\frac{v}{y}\cdot\frac{dv}{d\rho}\frac{\rho}{v} = \eta_{yv}\,\eta_{v\rho}.$$

Thus under our assumptions the elasticity, with respect to the interest-rate, of the pace of gross investment in a given kind of instrument, whichever of the two definitions of this pace we adopt, is directly proportional to the elasticity, with respect to the

interest-rate, of the least sanguine current valuation of such instruments which yields a decision to invest. Since, as we shall immediately show, a fall in the interest-rate will raise all valuations, some of which were previously extra-marginal—that is, lower down the list than the least sanguine one which yielded an order—may be raised above the margin, and the pace of gross investment in instruments of this type will thus be increased. Since the same will be true of instruments of all kinds, a fall in the rate of interest, not counteracted by any simultaneous other change, must be expected to increase the pace of gross investment in the system as a whole, and, if the only concurrent increase in the pace of depreciation of the whole existing capital equipment of the system is that arising from the increase of gross investment, there will also result an increase in the pace of net investment. It remains, in order to establish a presumption in favour of the doctrine that interest-rates influence the pace of investment, to show that they influence the values which are set on equipment. Let us suppose at first that an enterpriser treats the net amounts which will be earned by some instrument which he has it in mind to buy as known exactly and for certain; and see how under various assumptions as to the distribution over future time of these net amounts, the value which he sets upon the instrument will vary when the interest-rate is varied.

The simplest of these assumptions is that the instrument will yield its entire net return C at a single instant of a known futurity of x years. Then its value will be $v = Ce^{-\rho x}$, and the proportionate change in this value due to a given proportionate change in ρ is

$$\frac{dv}{d\rho}\frac{\rho}{v} = \quad \rho x.$$

This elasticity increases numerically in direct proportion to the futurity x of the net return, and the proportion in question is itself equal to the interest-rate. In so far, therefore, as the expected net returns from a capital instrument are concentrated near some one future date, its value will be more sensitive to given proportionate changes in the interest-rate, the more distant the date, and the higher the interest-rate itself. A rather more realistic assumption is that the instrument will yield returns, net of all running expense including that for repairs and renewals sufficient to maintain it in perfect condition, at a constant time-rate for ever. Then if this time-rate is c we have :

$$v = c\int_0^\infty e^{-\rho x}dx = \frac{c}{\rho},$$

so that if a new level of the interest-rate is $\frac{1}{k}$ times the old one, the new value of the instrument will be k times the old one. Could we, for example, reduce the appropriate interest-rate from 3% per annum to 2% per annum, the value of an instrument expected to yield uniform net returns in perpetuity would be multiplied by $\frac{3}{2}$, raised, that is to say, from 33 c approximately, or "33 years' purchase," to 50 c, or "fifty years' purchase." The supply-curve $y(u)$ of such instruments would have to be extremely inelastic (a condition quite the opposite of that which prevails in a slump) if such a rise of value were not to result in a large proportionate rise in the number of such instruments produced in a unit of time. For small changes we can express the matter in terms of elasticities. We have $\frac{dv}{d\rho} = -\frac{c}{\rho^2}$ and $\eta_{v\rho} = \frac{dv}{d\rho}\frac{\rho}{v} = -1$. The elasticity of the quantity of the instruments produced in a

TABLE I

L	$\frac{\Delta v}{v_1}$ for $\Delta\rho = 0.03\text{–}0.04$. 1.	$\frac{\Delta v}{v_1}$ for $\Delta\rho = 0.02\text{–}0.03$. 2	$\frac{\Delta v}{v_1}/\frac{\Delta\rho}{\rho_1}$ for $\Delta\rho = 0.03\text{–}0.04$. 3.	$\frac{\Delta v}{v_1}/\frac{\Delta\rho}{\rho_1}$ for $\Delta\rho = 0.02\text{–}0.03$. 4.
5	0.025	0.025	0.10	0.08
10	0.048	0.049	0.19	0.15
20	0.092	0.096	0.37	0.29
40	0.167	0.182	0.67	0.55
80	0.264	0.316	1.06	0.95

unit of time with respect to the interest-rate is $\eta_{y\rho} = \eta_{yv}\,\eta_{v\rho}$. Even, then, if η_{yv}, the elasticity of supply, is no more than $+1$, a given small proportionate change $\frac{\Delta\rho}{\rho}$ in the rate of interest will produce an equal proportionate change, of opposite sign, in the pace of price-deflated gross investment in the instruments.

The most realistic simple assumption is, however, that the instrument is expected to yield uniform net returns for some finite number of years and then be abandoned. If the expected useful life is L we have :

$$v = c\int_0^L e^{-\rho x}dx = \frac{c}{\rho}(1 - e^{-\rho L}).$$

In the accompanying table (Table I) column 1 shows $\frac{\Delta v}{v_1}$, where Δv is the difference $v_2 - v_1$ produced in v by a change from $\rho = 4\%$ per annum to $\rho = 3\%$ per annum, v_1 corresponds to the first and v_2 to the second of these values of ρ, and the useful life

L is taken successively at 5, 10, 20, 40, and 80 years. Column 2 shows the same for an interest-rate changing from 3% to 2% per annum. Column 3 shows the quasi-elasticities $\frac{\Delta v}{v_1}\Big/\frac{\Delta \rho}{\rho_1}$, where $\Delta\rho = \rho_2 - \rho_1$, $\rho_1 = 4\%$ per annum, $\rho_2 = 3\%$ per annum; and column 4 similarly corresponds to column 2.

In this table we see, for example, that a fall in the rate of interest from a level of 4% per annum to one of 3% per annum raises the value of the instrument, when this is expected to yield net returns of a constant amount per year for L years and afterwards nothing, by 5% if L is 10, by 9% if L is 20, by $16\frac{1}{2}$% if L is 40, and by $26\frac{1}{2}$% if L is 80. It is clear that the *percentage* by which the value of a durable instrument is raised by a given reduction of the interest-rate—that is, the sensitivity of the value to such changes—is a strongly increasing function of the expected revenue-earning life.

There is, then, a case for supposing that interest-rates should influence the pace of investment. Let us turn now to the testimony of enterprisers themselves.

A very full account of the method and results of the questionnaire enquiry, conducted by the Oxford Economists' Research Group in 1939, is given by Mr. P. W. S. Andrews in *Oxford Economic Papers* No. 3, to which the reader is referred. The results are summarised thus by Mr. R. S. Sayers in the same issue:

> "About one-quarter of the business men gave some answer to the questionnaire. Of those who replied, about three-quarters stated that the terms (in the broad sense) on which loans could be obtained had not affected their decisions to add to or maintain either fixed or working capital. One-quarter of those replying (about 6% of those asked) gave some kind of affirmative answer.
>
> "In assessing the significance of these results [Mr. Sayers proceeds] it is necessary to consider firstly whether the 25% who replied constituted a fair sample, for our purpose, of the whole. Why, in fact, did the other 75% throw the questionnaire into the waste-paper basket? . . . My own guess is that most of the firms were, as a result of their own experience, not convinced that borrowing terms make much difference to their decisions. If this guess is the right one, we must obviously work on the assumption that the proportion of business men conscious of the effectiveness of borrowing terms must be much lower than one quarter, though it may be rather more than 6%."

What considerations can we have omitted from the theory stated above, to account for its leading to conclusions that the facts do not seem to support? A hint is provided by some of the comments which accompanied the business men's answers. The following comments of six of them seem specially illuminating:

> A. "Any profit or advantage expected from expenditure on plant or repairs, or from varying the quantity of stock [1] held, has greatly out-

[1] *I.e.*, stock-piles of materials or products.

weighed the cost of borrowing or the income receivable by depositing surplus funds with bankers."

B. "If the estimated advantage from a projected extension is jeopardised by a 1% difference in interest, it hardly seems justifiable anyhow."

C. "We are not generally affected by the cost of borrowing money and rates of interest, because we do not come to a decision to spend money on extensions unless or until we can see it will really be profitable to do so. The interest either paid on money borrowed on overdraft or earned as interest would generally speaking be small compared to the earning power on any such expenditure."

D. "Difficult to imagine a position in which interest-rates could have any appreciable effect compared with taxation, on plans for extension. Have for some time been considering laying down small amount of extra plant, but the proposition, which includes a considerable risk, can be attractive only if 50% return on capital value[1] is considered possible. Unless we get 33%, any extension is out of the question."

E. "If expenditure on new craft[2] were to be influenced by the cost of borrowing, the profit on the building project would be very much too low to render it a normal commercial risk."

F. "Expenditure on plant extensions has been made only when the trend of business has shown this to be desirable. Question of financing, and rate of interest, has not affected it, as unless anticipated return were far in excess of such cost, the projects would not have proceeded to decision stage."

These comments all speak of an expected or estimated "profit," "return," or "earning power" which must greatly exceed the cost of borrowing if the investment in question is to be made. The reason for this requirement appears in the references, in comments D and E, to *risk*. We said at the beginning of this article that an enterpriser must allow for his doubt concerning the correctness of his estimates of future net returns by multiplying each by a coefficient whose size will depend on the futurity of the net return in question: but we then, by assumption, excluded this doubt. Let us re-introduce into our expression for v a coefficient $s = s(x)$, and see what effect is produced by assigning different forms to this function. Let us first suppose this form to be such that s has the same value for all values of x; in other words, that the enterpriser makes the same allowance for doubt in regard to every instalment of net returns no matter what its futurity. In this case no difference whatever will be made to the sensitiveness of v with respect to ρ—that is, to the elasticity $\eta_{v\rho}$. For if

$$v = sc\int_0^L e^{-\rho x}dx$$

we have: $$\frac{dv}{d\rho}\frac{\rho}{v} = \{e^{-\rho L}(\rho L + 1) - 1\}/(1 - e^{-\rho L})\rho,$$

which is independent of s. It is not, then, a matter of indifference what form is assigned to $s = s(x)$, if we wish it to account for the meagreness of entrepreneurial reactions to the interest-

[1] *I.e.*, capital *cost*.

[2] Ships.

rate. We may assume, perhaps, that $s < 1$ for all x; and let us put $s = \frac{1}{q}$. Surely the allowance for doubt will be better able to reduce the leverage of the interest-rate, if q is relatively large for those instalments of net return *whose present value* (when no allowance is made for doubt) *changes by the largest amount* when the interest-rate changes? To discover some form of $s = s(x)$ which will make the allowance for doubt the solution of our paradox, we must discover which these instalments are.

When a reduction of the interest-rate raises the value of a capital-good whose earnings are expected to be uniform for a finite number of years and afterwards nothing, it is not the earnings of the *nearest* future years which contribute most to the total gain of value; nor is it always the most distant. Let u be the present value of an element of net returns due at an instant x years hence, the size c of this element being treated as known for certain; and writing $u = u(\rho, x) = ce^{-\rho x}$ let us study the quantity $\dfrac{\partial\left(\frac{\partial u}{\partial \rho}\right)}{\partial x} = (\rho x - 1)ce^{-\rho x}$. $\dfrac{\partial u}{\partial \rho}$ will have a stationary value where $\dfrac{\partial\left(\frac{\partial u}{\partial \rho}\right)}{\partial x} = 0$, and the only finite solution of $(\rho x - 1)ce^{-\rho x} = 0$ is $x = \frac{1}{\rho}$. We have also $\dfrac{\partial^2\left(\frac{\partial u}{\partial \rho}\right)}{\partial x^2} = \rho ce^{-\rho x}(2 - \rho x)$, which at $x = \frac{1}{\rho}$ is positive. Thus $x = \frac{1}{\rho}$ gives a *minimum* of $\frac{\partial u}{\partial \rho}$. Since what we wish to study is a *fall* in ρ, this minimum is for our purpose a *maximum*. If then, for example, $\rho = 0{\cdot}03$ we shall find that the *largest contribution* to the total gain in value of the instrument, caused by a given (small) fall of ρ, is made by those instalments of net return which are due at dates of a futurity round about $x = \frac{1}{\rho} = 33$ years; or if $\rho = 0{\cdot}02$, by those of a futurity about $x = 50$ years.

The distribution of the total gain in the value of an instrument, due to a fall in the interest-rate, over the different periods in the assumed life of the instrument, is illustrated in Table II, where, however, for sharper contrast we have used a large instead of a small change of ρ, with the consequence of displacing somewhat the date of maximum effect. We again consider the effect of pure time-discounting alone on the value of a prospective

series of net returns whose sizes are taken as known for certain. Here column 1 shows the value, discounted to some one point of time standing for "the present," of the assumed net earnings of an instrument in successive future decades of its total life of 80 years, the time-rate of these earnings being supposed constant throughout and the rate of interest ρ being 4% per annum. Each figure in this column, that is to say, is an evaluation of

$$v_m = c\int_A^B e^{-\rho x}dx = \frac{c}{\rho}(e^{-\rho A} - e^{-\rho B})$$

where we put A successively equal to 0, 10, . . ., 70 years, and B correspondingly equal to 10, 20 30, . . ., 80 years. Column 2 shows the same for $\rho = 2\%$ per annum. Column 3 is a companion to column 1, and shows what percentage of the total value of the instrument is attributable to each future decade of its life, and column 4 is a similar companion to column 2. Column 5 shows the excess of each figure in column 2 over the corresponding figure in column 1, it shows, that is to say, that part of the total *gain* in the value of the instrument which is attributable to each decade of its life. Column 6 shows what percentage each figure in column 5 represents of the total of the figures in column 5—that is, what percentage of the total gain in value is attributable to each decade. In column 7 the figures in column 6 are cumulated, so that, for example, by looking at the figure in column 7 opposite decade 4, we can see what percentage of the

TABLE II

Decade	Present value, in terms of "years' purchase," of net returns in each decade.		Percentage of total value of instrument attributable to the net returns of each decade.		Excess of column 2 over column 1.	Percentage of the total *gain* in value attributable to each decade.	Column 6 cumulated.	
	$\rho = 0{\cdot}04$.	$\rho = 0{\cdot}02$	$\rho = 0{\cdot}04$.	$\rho = 0{\cdot}02$.				
	1.	2.	3.	4	5.	6.	7	
1	8·24	9·06	34·5	22·6	0·82	5·0	5·0	100·0
2	5·52	7·42	23·2	18·7	1·90	12·0	17·0	95·2
3	3·70	6·07	15·4	15·3	2·37	15·0	32·0	83·2
4	2·48	4·97	10·3	12·5	2·49	15·7	47·7	68·2
5	1·68	4·07	7·1	10·2	2·39	15·0	62·7	52·5
6	1·12	3·33	4·8	8·3	2·21	14·0	76·7	37·5
7	0·75	2·73	3·2	6·8	1·98	12·5	89·2	23·5
8	0·50	2·23	2·1	5·6	1·73	11·0	100·0	11·0
Total	24·00 (approx.)	40·00 (approx.)	100·0	100·0	16·00 (approx.)	100·0		

total gain in value, due to a change from $\rho = 4\%$ per annum to $\rho = 2\%$ per annum, is attributable to the first half of the instrument's life.

Now let us suppose that the instrument's life is of 40 instead of 80 years. The relevant figures from Table II, columns 1, 2, and 5, are reproduced below as Table III. Here the first two columns again show the present value in terms of "years' purchase" of the earnings of each decade, for interest-rates respectively of 4% and 2% per annum, while column 3 shows the excess of each figure in column 2 over the corresponding figure in column 1; it shows, that is to say, that part of the total gain in the value of the instrument which is attributable to each decade:

TABLE III

Decade.	Present value, in terms of "years' purchase," of net returns in each decade.		Excess of column 2 over column 1.
	$\rho = 0{\cdot}04$. 1.	$\rho = 0{\cdot}02$. 2.	3.
1	8·24	9 06	0·82
2	5·52	7·42	1·90
3	3·70	6·07	2·37
4	2·48	4·97	2 49
Totals	20 00 (approx.)	27·50 (approx.)	7·50 (approx.)

From this table it can be seen, for example, that when the value of the instrument is raised from 20 to 27·5 years' purchase, by means of a reduction of the interest-rate from 4% per annum to 2% per annum, $\frac{2}{3}$ of this gain of 7·5 years' purchase is attributable to the more distant half of the instrument's life, the period *beginning* 20 years hence. Again, if we had considered a life of only three decades (neglecting the fourth row of the table), nearly half of the total gain of 5 years' purchase would have been attributable to the last third of the useful life.

Let us compare these results with those of Table I. There we found that the value of an instrument is more sensitive to changes of interest-rates *the farther into the future its assumed revenue-earning career extends*. If this career is assumed to be very short—say of only 5 or 10 years—the value responds very little even to quite a large change in the interest-rate. But the length of this career is by no means a matter of mere physical durability. The most frequent reason for assuming *ex ante* that

an instrument's useful life will be short is that its earning-power seems liable to vanish, at some unpredictable date, through inventions of new methods and changes of demand. If each future year is regarded as holding some given numerical chance of such a change, or as contributing something to a gradual change, then if we take in enough future years the obsolescence of the instrument by the end of that time becomes virtually certain. Alternatively, we can say that the more distant the future date we look at, the more worthless is any guess as to what the market and other conditions will then be, and the more worthless, therefore, and the more heavily to be discounted for doubt, is any guess as to the earnings at that time of any complex and specialised instrument. Thus a limit is set by uncertainty to the useful life which it is sensible to assume.

In accordance with this argument,[1] let us suppose that the impact (*i.e.*, the reciprocal of s) of the enterpriser's allowance for doubt increases exponentially with the distance into the future of the date he has in mind, so that $s(x) = e^{-hx}$. This is not only reasonable *a priori*, but is in fact what every theorist does who speaks of a *marginal rate of risk* conceived as analogous to the rate of risk-free [2] interest, and often, indeed, added to the latter in order that the sum of these two rates may be equated to the marginal efficiency of capital under any of its synonyms.[3] Then writing $R = h + \rho$ we have:

$$v = c\int_0^L s(x)e^{-\rho x}dx = c\int_0^L e^{-Rx}dx = \frac{c}{R}(1 - e^{-RL}).$$

An indication of the numerical value which, for illustration and experiment, may be assigned to R, is given us in one of the comments quoted above, where an enterpriser spoke (in comment D) of a proposition which could be attractive "only if 50% return on capital value [4] is considered possible. Unless we get

[1] And with our suggestion that allowance for doubt will be most able to reduce the power of changes in interest-rates to stimulate or depress investment, if the impact of this allowance (supposing s to be less than 1 for all x) is heavy upon those instalments of return which, in case of a change of ρ, make the largest contribution to the increase or decrease of v.

[2] By "risk-free" or "pure" interest we mean interest free from risk of *default*, not free from the risks entailed by *illiquidity*. See page 2 above.

[3] "Rate of return over cost" (Irving Fisher); "marginal efficiency of capital" (Lord Keynes); "internal rate of return" (K. E. Boulding); "prospective rate of profit" (M. Kalecki). All of these mean an exponent μ such that the value of the instrument, $v = \int_0^\infty c(x)e^{-\mu x}dx$, is equal to u its purchase price.

[4] "Capital cost" must be meant: but if we suppose this enterpriser's valuation to be the marginal one, it will be equal to capital cost.

33% [the enterpriser proceeds] any extension is out of the question." Let us suppose at first that, so far as physical durability is concerned, the net return c is calculated after sufficient allowance for repairs and renewals to maintain the technical efficiency of the instrument indefinitely; and that the whole risk of obsolescence is allowed for in the component h of $R = h + \rho$. Taking the enterpriser's remarks to mean that the lower figure gave a value for the instrument which made it marginal in the circumstances of the case, we have as the value relevant to our elasticity calculations:

$$v = c\int_0^\infty e^{-Rx}dx = \frac{c}{R} = \frac{c}{h+\rho},$$

so that
$$\eta_{v\rho} = \frac{dv}{d\rho}\frac{\rho}{v} = -\frac{\rho}{R},$$

and if, for example, $\rho = 0{\cdot}03$, then $\eta_{v\rho} = -\,0{\cdot}09$.

In this case, therefore, a change in the risk-free interest-rate from, say, a level of 3% per annum to one of 2% per annum would raise the (formerly) marginal valuation of the instrument by about 3%. Had there been no allowance for doubt (had the marginal rate of risk been zero), the percentage increase in v due to this fall in ρ would have been 50%. It begins to be clear that we have got hold of a solid clue to the meagre powers of the interest-rate as a stimulator of some forms of investment.

A marginal rate of risk as high as $h = R - \rho = 30\%$ per annum may be exceptionally high. Moreover, it may be that the "return on capital value" of 33% should be interpreted not as R, but as $\frac{c}{v}$: for the former, even when considered as the magnitude which becomes equal to the marginal efficiency of capital when u is equal to v, is a rather sophisticated notion. So long as the useful life is taken as unlimited, R and $\frac{c}{v}$ are the same; for if $v = \frac{c}{R}(1 - e^{-RL})$ so that $R = \frac{c}{v}(1 - e^{-RL})$, then $R \longrightarrow \frac{c}{v}$ as $L \longrightarrow \infty$.

An appreciable divergence appears between R and $\frac{c}{v}$ when RL is small, for then the factor $(1 - e^{-RL})$ becomes appreciably less than 1. Thus for any given value of R a sufficiently small value of L will make $R/\frac{c}{v}$ small. But even if h is only 15% per annum—that is, half what we have assumed above—so that

$R = 18\%$ per annum, the ratio $R/\frac{c}{v}$ is already 0·835 for L no greater than 10; and with so short a useful life as this, a change in the rate of pure interest from $\rho = 3\%$ per annum to $\rho = 2\%$ per annum, even with a zero marginal rate of risk, would change v by only 0·037 or, say, $3\frac{3}{4}\%$. Thus if the "return on capital value" which an enterpriser takes as his minimum requirement is of the order of 10 or 15% per annum, then whether this figure means R or $\frac{c}{v}$, the value of the instrument will be insensitive to even very large proportionate changes in the rate of pure interest: for if, on the ground of the absence of positive contrary signs, the revenue-earning life of the instrument is assumed to be long, allowance for doubt will render negligible the net returns of all but a few years immediately ahead; while if it is assumed to be short, the influence of the rate of pure interest is weak even without any allowance for doubt.

TABLE IV

5-year period.	Present value, in terms of "years' purchase," of the net returns in each 5-year period.		Percentage of total value of instrument attributable to the net returns of each 5-year period	
	$R = 33\%$ per annum.	$R = 18\%$ per annum.	$R = 33\%$ per annum.	$R = 18\%$ per annum
1	2 424	3 294	80 8	61 0
2	0 466	1 339	15 6	24 8
3	0 089	0 544	3 0	10 1
4	0 017	0·221	0·6	4 1
Total	2·996	5 398	100 0	100 0

This part of our argument is illustrated in the accompanying Tables IV and V. In Table IV, column 1 shows the value, discounted both for deferment and doubt at a combined rate $R = h + \rho = 33\%$ per annum, of the net returns in successive future 5-year periods of the instrument's assumed useful life of 20 years, these net returns (which, in common with the useful life itself, are estimates made in the light of the knowledge available to the enterpriser at his "present moment") being supposed constant throughout. Column 2 shows the same for $R = 18\%$ per annum. Column 3 is a companion to column 1 and shows what percentage of the total value of the instrument is attributable to each future 5-year period of its life, and column 4 is a similar companion to column 2. Table IV uses 5-year periods, instead of the decades of Table II, because with such numerically large exponents the

present values of net returns decrease so rapidly with increasing futurity.

In Table V, column 1 shows the percentages by which the value of an instrument, assumed to produce uniform net returns for 5, 10, 20, and 40 years respectively, is increased by a reduction of the rate of pure interest ρ from 3% per annum to 2% per annum when the marginal rate of risk h is 30% per annum; column 2 shows the same for $h = 15\%$ per annum, and column 3 the same for $h = 0$.

From Table V it will be seen that even with a marginal rate of risk as low, in comparison with those suggested in comment D, as 15% per annum, a reduction of the rate of pure interest by as much as one-third may increase the value of an instrument expected to be used for 40 years by only some 6%. If no allowance needed to be made for uncertainty, such a reduction of the rate of pure interest could increase the value of this

TABLE V

$\Delta v = v_2 - v_1$, where v_1 corresponds to $\rho = 0{\cdot}03$, v_2 corresponds to $\rho = 0{\cdot}02$.

L.	$\frac{\Delta v}{v_1}$ for $h = 0{\cdot}30$.	$\frac{\Delta v}{v_1}$ for $h = 0{\cdot}15$.	$\frac{\Delta v}{v_1}$ for $h = 0$.
5	0·019	0·022	0·025
10	0·027	0·037	0·049
20	0·030	0·052	0·096
40	0·031	0·059	0·182

instrument by 18%. Now, there must surely be at any time in the minds of the enterprisers a larger number of contingent investment plans each having a value lying within 18% of its cost than there are of such plans each having a value lying within 6% of its cost. If so, allowance for doubt, when this allowance takes the form and degree we have supposed, greatly reduces the sensitiveness of investment to given reductions of the rate of pure interest.

We have shown that allowance for the *hazards* which beset the prospective earning career of many forms of equipment can easily render ineffective, as a stimulator of investment in these forms of equipment, even a large proportionate change of the rate of pure interest. If the problem we are trying to solve is held to consist of the question "What factor severely restricts the influence of interest-rates on the pace of investment?", we answer that this factor is the allowance for doubt. But if our problem is cast in the form "Why is it that enterprisers deny,

in the main, that interest-rate changes *have ever* affected their investment-decisions? ", then there is an additional explanation. It is this latter question which is posed by the replies to the Oxford questionnaire.

When a man takes a decision on any matter whatever, he tacitly or unconsciously takes into account a great range of circumstances which are all relevant, in the sense that if any one of them were materially different his decision might be different. But a very large proportion of these circumstances are simply taken for granted, and conscious thought and attention are concentrated on those elements of the problem which are either incompletely and doubtfully known, or else which are liable to rapid change on a scale which affects the issue. The very fact that he is engaged in making a decision shows that something in the relevant circumstances has changed, and, before beginning his consideration of the issue, he must list in his mind all such changes which have occurred since the problem last occupied him. *These* will then seem to be the efficient causes of his decision. When he is afterwards asked how his decision was reached, he will make no reference to all those aspects which merely seemed to provide a stable frame for the play of the active factors: elements which, without necessarily remaining perfectly constant, had shown *proportionate* changes (on which the degree of contrast, and the power to attract attention, depend) too small to be noticed.

Let us call a reduction of an interest-rate from, *e.g.*, 4% per annum to 3% per annum (or from 5 to 4, or from 2 to 1), a *unit reduction* of the rate. Then the largest fall in the yield of British Consols which occurred between any two successive years in the period 1870–1913 was of 0·15 unit, while a fall, between two successive years, of 0·33 unit or more occurred only three times in the eighteen years 1919–36. Turning back to the case where L tends to infinity, so that

$$v = c\int_0^\infty e^{-Rx}dx = \frac{c}{R} \text{ and } \eta_{v\rho} = -\frac{\rho}{R} = -\frac{\rho}{h+\rho},$$

let us again put $h = 0{\cdot}30$, $\rho = 0{\cdot}03$, $R = h + p = 0{\cdot}33$; and in the light of the figures just given regarding historical *speeds of change* of ρ, let us consider a change in ρ of 0·33 *unit*—namely, from a level of $3\frac{1}{3}$% per annum to one of 3% per annum. This change in ρ will imply a change in R from $33\frac{1}{3}$% per annum to 33% per annum—that is, a proportionate change $\dfrac{\Delta R}{R} = 0{\cdot}01$,

and since $v = \frac{c}{R}$, such a change in ρ, the rate of pure interest, will raise the marginal valuation of the instrument by about one-hundredth. If the elasticity of supply of the instruments in question were as much as 5, still a drop from $3\frac{1}{3}\%$ per annum to 3% per annum in ρ, the rate of pure interest, would give a percentage increase in the pace of gross investment in such instruments of no more than

$$\frac{\Delta\rho}{\rho}\eta_{z\rho} = \frac{\Delta\rho}{\rho}\eta_{v\rho}(1 + \eta_{yv}) = 0{\cdot}11 \times 0{\cdot}09(1 + 5) = 6\%;$$

or if we prefer price-deflated gross investment

$$\frac{\Delta\rho}{\rho}\eta_{y\rho} = \frac{\Delta\rho}{\rho}\eta_{yv}\,\eta_{v\rho} = 0{\cdot}11 \times 5 \times 0{\cdot}09 = 5\%;$$

But are not such calculations rather beside the point in such a case as this? Is it really to be supposed that an increase of *1%* in the estimated, or rather the conjectured, value of the instrument will strike out any spark of enthusiasm in the enterpriser's mind? Will he even trouble himself to revise his estimates at all on account of such changes as have ordinarily occurred in recent decades, in the long-term rate of pure interest? And we must then ask: even if such an increase in value should be noticed, and even acted upon, by a few enterprisers, *how many* would there be, even over the whole range of industry, who had in mind at any one time a project which was sub-marginal *by only 1%*?

In this article I have endeavoured to show—

(*a*) the rationale of the belief that interest-rate changes influence the pace of investment;

(*b*) that this influence must certainly be strong on the pace of investment in instruments of those kinds which men believe can be depended on to continue earning net returns for many decades after they are constructed;

(*c*) that the strength of the influence of interest-rates on the pace of investment in those kinds of equipment which are subject to the hazards of invention and fashion can be rendered negligible by an allowance, of a size such as enterprisers themselves imply that they adopt, for doubt concerning the correctness of the "best guess" they can make, on available knowledge, as to the size of future net returns from such equipment; provided the *form* of this allowance is that of a rate used for discounting in the same manner as

the interest-rate ; or is some other strongly-increasing function of futurity ;

(*d*) that *historically* the movements of the long-term interest-rate in Britain have seldom been rapid or abrupt enough to constitute appreciable changes of circumstance, or to engage the enterprisers' conscious attention as such.

It may be well to repeat, in conclusion, that where, as with houses, doubt concerning future net returns is small, there is nothing in what we have said which contests the belief that the interest-rate can powerfully affect the demand-price and thus the pace of investment in a given type of instrument.

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"FULL EMPLOYMENT" AND INCOME INEQUALITY

AMONG the many curious paradoxes of current thinking on economic policy, none is more curious than the persistent reluctance of most of those thinkers who rightly deplore inequalities in distribution of income to consider seriously how far they might be corrected by "radical" action, in the true sense of that word, by action, that is to say, which went to the root of the matter by permanently altering the relative scarcities of different types of skill and service, from which have emerged many of the important inequalities of modern economies. Even those who for one reason or another are eager for further extensions of educational opportunity seldom show much appreciation of the profound effects which such reforms might have on the traditional pattern of income distribution.

This paradox is all the more worthy of attention at the present time, when, in addition to the other weighty reasons, both social and economic, which might be adduced in favour of a less unequal income distribution, it is widely believed that "the ultimate cause of unemployment in modern societies is to be found in the prevailing distribution of incomes." [1] Some recent discussions of techniques for the attainment of "full employment" have therefore had a good deal to say about income redistribution. There are, however, broadly speaking, two approaches to this problem. We might first examine the causes of the prevailing distribution and seek for appropriate methods for removing or modifying them. Or, accepting the prevailing distribution as a datum not to be questioned, we might confine our attention to redistributive methods applied, so to speak, after the event, allowing the economic system to go through the intricate motions which pour out incomes well above the average to those who are in a sufficiently fortunate position, and following this up with another set of equally intricate motions which, by means of taxation, withdraw from these people part of their gross incomes and redistribute it to others in the form of social services of one kind or another. It might be expected that the former approach would be the more attractive for economists who somewhat ostentatiously avow themselves to be devotees of a "New Economics," and therefore

[1] E. F. Schumacher in *The Economics of Full Employment* (Oxford University Institute of Statistics), p. 90.

presumably pride themselves on being modern and progressive. Rather surprisingly, even when they recognise the existence of profound, but not irremovable causes of inequality, they usually leave on one side any further consideration of the practical issues raised by these causes, and concentrate their attention exclusively on the second type of redistributive method. Mr. Schumacher, for example, in the symposium quoted above, agrees that "the most logical course of action . . . would be to go to the root of the matter and to alter the conditions which determine the distribution of gross incomes, *i.e.*, incomes before taxation." As, however, "these conditions are of such a fundamental nature and are created by the whole structure of distribution of property, by inheritance, imperfect competition, and the very design of present-day capitalist society," [1] he excuses himself from any further consideration of them. This reticence is no doubt logical enough in a paper which deals with the relatively restricted subject of "Public Finance—Its Relation to Full Employment." But, Mr. Kalecki, whose purpose in undertaking a discussion of "Three Ways to Full Employment" is presumably much wider, and who, by giving a high priority to the method of "redistribution of income from higher to lower income classes," would seem to have renounced Mr. Schumacher's justification for turning aside from the profounder issues involved, also confines his attention to redistribution by means of taxation or by price control which would have the effect of "squeezing" profit margins, and entirely neglects more "radical" measures.

For our purposes here it is not necessary to examine the validity of the thesis which identifies unequal income distribution as the root cause of unemployment. The case for a less unequal distribution is sufficiently strong on other grounds. Our purpose is rather to examine some of the implications of the attitude which these writers who, whether rightly or wrongly, believe redistribution to be an essential condition for the attainment of "full employment," an end to which they assign the highest priority, adopt in face of the two alternative approaches towards a less unequal distribution of income. It would seem, on the face of it, more sensible first to examine the possibility of ensuring such a reallocation of productive resources as would diminish the scarcity of the services to which at present relatively high incomes are normally attached, and increase the scarcity of the services which are now badly paid. By so doing we could avoid at least some of the tedious complexities to which any

[1] *Op. cit.*, pp. 90–1.

whole-hearted attempt to redistribute exclusively by means of taxation inevitably leads. The results moreover might reasonably be expected to be fairly permanent, so that the necessity for further redistribution by means of taxation in the future would steadily diminish. The writers under discussion, however, for the most part set this genuinely "radical" approach on one side as impracticable, and focus their attention instead almost exclusively on the machinery of direct transfer by means of taxation.

These two approaches to the problem of income redistribution are, of course, not to be regarded as mutually exclusive. Redistribution by means of taxation and social services is now a commonplace, to which in principle few will seriously object. Experience has moreover shown that most economies can stand a great deal more of this sort of thing than many supposed when the technique was first applied on any considerable scale. The gloomy forebodings which have often greeted proposals for redistribution along these lines have usually turned out to have little justification, and there is little reason to suppose either that we shall ever entirely dispense with the use of this technique, or that it is incapable of much more refined application than anything so far attempted. Nevertheless the ideal situation would clearly be one in which it was little applied because there was little need for it, and though we may agree that this ideal situation will probably never be reached, it would be foolish on that account to refuse to take any steps which might lead us in that direction. Neglect of these possibilities is all the more regrettable on the part of those concerned to diminish the risks of unemployment, inasmuch as the same reforms, educational and otherwise, which would affect the basic relative scarcities so as to diminish income inequalities, would at the same time widen some of the "bottle-necks," which, from a practical standpoint, are so important whenever we attempt to work out the details of an employment programme.

It is interesting, and perhaps not altogether unprofitable, to speculate upon the reasons for this comparative neglect by many professedly ardent equalitarians of radical measures for the diminution of inequality. The first and no doubt most obvious is impatience with proposals whose full effects will certainly not be felt until after the lapse of a considerable period of time. If we are eager to do something quickly, we shall probably not become very excited about the extension of educational opportunities whose immediate impact upon income distribution may

be almost negligible. But while such impatience is natural enough, experience has often demonstrated that eagerness to produce quick results may be the surest way of ensuring that in the long run the results attained shall be rather small and disappointing. In many modern economies the process of redistribution by taxation has already gone much further than anyone a generation ago would have thought conceivable. While, however, we have thus been warned against any hasty judgment that the limits of redistributive taxation have already been reached, the fact that the finance of Sir William Beveridge's social-security programme does not substantially increase the burden now resting upon the higher incomes, but aims rather at a redistribution of incomes at quite modest income levels, appears to indicate that we are now unlikely to have serious proposals in Great Britain for any substantial increase of redistributive taxation above the level attained in recent years. However this may be, the really astonishing thing about the efforts so far made in this direction is the slightness of the permanent effect which it has had upon the general shape of the income pyramid. Inequalities are not quite so glaring and obvious as they were, but they are still present on a very large scale.

It may indeed be argued with much plausibility that the explanation of this paradox is to be found in the fact that the root causes of inequality are far too deeply implanted in our modern economy to be reached by the superficial methods of redistributive taxation. This is apparently Mr. Schumacher's view. But it seems unreasonable, when confronted with a complex problem of this kind, simply to throw up one's hands in horror and conclude that nothing can be done about it short of a complete recasting of the institutions of modern society. The root causes of inequality are no doubt complex. But they are also numerous. Their general character is fairly well known,[1] and has indeed been familiar to economists for quite a long time. Many of them are quite amenable to treatment, which, if it had been applied say a generation ago might already have produced changes in the shape of the income pyramid much more drastic and much more permanent than anything now attributable to the effects of taxation. It is now nearly sixty years since Marshall pointed out that "the normal earnings of a carpenter and a surveyor might be brought much nearer together than they are, by even so slight and easy an improvement in our present social arrangements as the extending to all persons of adequate natural

[1] Cf. E. Cannan, *Wealth*, chap. XI–XII.

ability the opportunity of receiving the training required for the higher ranks of industry." The principle which Marshall enunciated in 1887 might indeed with advantage have been expressed in much more general terms, and the stout resistances which such improvements in social arrangements provoke show them to be by no means slight or easy. It would nevertheless be interesting to speculate upon the consequences for our social and economic structure of a continuous effort since that time to make its application an integral part of public policy in a more wholehearted fashion than the still rather timid educational reforms which have since then been fairly widely adopted. "The charitable endowments of universities and upper-class schools have had an important influence in reducing the remuneration and cheapening the products of the better-paid employments," but "the efforts of the Churches and the State have rather resulted in diminishing the remuneration and cheapening the products of the class of labour which requires a smattering of letters, but is scarcely above, if it is at all above, the average." [1]

It may no doubt be objected, and with some reason, that even the most drastic treatment of the relative scarcities of different kinds of labour would still leave untouched the still more fundamental causes of inequality which arise from the ownership of property, and that the "euthanasia of the rentier," which is confidently expected as a result of control of the interest rate, promises a redistribution of income much more far-reaching than anything likely to emerge from any treatment of the relative scarcities of different kinds of labour. Any theory of income distribution which neglected the effects of the distribution of property would of course be grotesquely inadequate, and though in practice the effects of the inequalities arising in the two spheres of labour income and property income are very closely interrelated, even the most whole-hearted efforts to correct the conditions which create gross inequalities in labour incomes would still leave a great deal to be done. A plea for more careful attention to these conditions is quite consistent with a belief that inequalities in income from property are much more important. But in relation to employment policy, there is special reason for emphasising the former in the favourable reactions upon the "bottle-neck" difficulty which might be expected from radical measures impinging upon relative labour scarcities. For the same educational policy which would make labour

[1] E. Cannan, *Wealth*, pp. 209–10.

incomes in general less unequal would also tend to increase the supplies of labour, a scarcity of which would threaten, by increasing the risks of inflationary pressures upon the price-level, to upset the smooth course of an unemployment policy based upon a desire to maintain a high general level of effective demand.

Another important contributory factor in the neglect which we are here examining is probably to be found in the disfavour into which "automatic" mechanisms have fallen as instruments of economic policy. Automatic mechanisms are no doubt often imperfect, and may indeed on occasion completely fail to produce their desired effect. But the strict qualifications which must for this reason be attached to approval of them are sometimes carried so far as to imply that even if there are good grounds for expecting favourable results from automatic mechanisms, it would be better to attempt to reach the desired end by more direct, and usually administratively much more elaborate means. If for any reason it were thought undesirable that the members of group A should continue to receive incomes ten times larger than those enjoyed by the members of group B, it might be supposed that the most reasonable and effective course would be so to influence the supply of and demand for the services from the sale of which these two groups derived their income as to ensure that the incomes of B rose relatively to those of A, and that more direct transfers following upon the collection of deductions from the incomes of A to be made available through the machinery of the state for the benefit of B, while not objectionable in themselves, and likely for an indefinite period to be necessary for certain purposes, should be regarded as a substitute measure of second-rate importance. Current fashions of thought, however, often prefer these second-rate substitutes, partly it seems because they appear to depend upon the precise decisions, based on quantitative measurement, which are widely supposed to be characteristic of a "planned" economy. But sometimes, too, one can detect curious affinities on the one hand with the old-fashioned middle class prejudices which disliked wage increases on the ground that the working classes did not know how to spend their money and would inevitably squander any increase which came to them, and on the other with a perversion of the still more ancient belief that charity was good for the soul of the giver. The spiritual welfare of the members of group A, as they submit to the purifying experience of handing over to the tax-collector for the benefit of others a fraction of their gross

income, is indeed probably not considered very seriously by anyone, but for some of those who organise the transfer there seems to be an undoubted satisfaction which they would presumably lose if the redistribution were effected by less direct means, which by diminishing the inequality of gross incomes, made taxation transfers less necessary.

A distrust of automatic mechanisms may be more precisely described as a distrust of the forces of supply and demand which find expression through the mechanism of price change, and those who cherish this distrust do not think very highly of the suggestion that income inequalities might in part be corrected by changing the relative scarcity of different kinds of labour. They despise the mechanism of price change as old-fashioned and out-of-date, and offer us the concept of "social priorities" as a substitute for this now outmoded instrument. Prices are no longer regarded as significant indicators showing the directions along which production should be expanded or contracted, but tend more and more to become mere totals of costs incurred in the course of production. But if we write down too drastically the mechanism of price change in relation to the prices of labour, and refuse to contemplate its further use in future for readjusting the prices paid for different kinds of labour, we land ourselves in serious contradictions. For not only can we scarcely refrain from accepting temporarily the results in which the past operations of the price mechanism are now crystallised, but we are also likely to accord to them a much more permanent status than on any reasonable hypothesis they can be held to deserve. This is indeed only one illustration of the expectation which some of the ideas now popular for new economic policies after the war tend to suggest to our minds, that, whether intended or not, their application may have the effect of more or less permanently crystallising the present structure of income distribution, and it may even be suspected that some of the support accorded to these ideas is, in part at least, based on a half-conscious realisation of this fact.

The defects of the price mechanism are well known, and probably in no field have its results been more imperfect than in the determination of the prices of labour. If, however, in future the function of price change is to be ignored, and nothing of a systematic kind is put in its place, we are likely to find that avowedly temporary decisions hastily taken for the determination of wages will leave us saddled indefinitely with the very imperfect results which the price mechanism has produced

in the past. Some practical basis is necessary to determine the prices to be paid for labour, and the easiest and most obvious course will be simply to carry on with the current practice. Contempt for the price mechanism thus leads us to accept a wage structure which has no obvious connection with "social priorities," but is in fact based very largely on the operations of the price mechanism in the past. Its operations at that time were defective, but even if they had been perfect there is no good reason for assuming that they will continue to be adequate for facing the constantly changing conditions of the future. Nor are the corrections introduced by redistributive taxation very much to the point here, for however drastic they may be, they too almost inevitably must preserve the traditional order of magnitude of labour incomes, and it is precisely this traditional order, many parts of which are probably even now lacking in rational justification, that reforms in educational policy might be expected to change.

It would be quite unfair to hint that the writers who are here being criticised do not really want radically to change the existing shape of income redistribution. But it is fair to suggest that if they get their way, and current fashions of thought about what is of the first order of importance for post-war economic policy continue to be coloured by their prejudices, the existing shape of income redistribution is not only unlikely to be changed, but is indeed likely to become even more resistant to the forces of change than it has been in the recent past. The high place which they continue to give to public works in their reform programmes is a clear indicator pointing in the same direction. Public works are indeed a perfectly legitimate though subordinate instrument in a well-balanced policy for an expanding economy. But if, as still too often happens, they are rated too high, they will inevitably tend to become instruments for ensuring the continuance of the present income structure. The persistence of wide differences between the prices paid for different kinds of labour should be interpreted as indicating the desirability of expanding the opportunities of employment in the higher paid types of work. Even the most refined and reformed types of public work are likely in the first instance to have precisely the opposite effect, for the opportunities for employment which they will create will for the most part be opportunities in fields where the rate of remuneration tends to be low. In times of emergency such action cannot be very well avoided, but recommendations for its permanent incorporation in policy for normal times are

not what one would expect from writers who believe that "the ultimate cause of unemployment in modern societies is to be found in the prevailing distribution of incomes."

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BRITAIN'S BARGAINING POWER

THERE has been much discussion recently about the advantages and disadvantages of using Britain's bargaining power as a large importer to force overseas countries to take exports from us. The question is now perhaps of rather academic interest, as a result of the Anglo-American financial and related agreements, but it may nevertheless be useful to shed some light on a quantitative aspect of the problem which has hitherto received little attention.

The bargaining power of this country *vis-à-vis* another is determined to a considerable extent by the dependence of the latter country's exports on the U.K. market. A country like Eire, which sends over 90% of its exports to the U.K., is more dependent on us, and more susceptible to pressure by us, than a country like Colombia, which sends us less than 1% of its exports. This is, of course, by no means the whole story. Other important considerations include : the nature of a country's balance of trade with the United Kingdom (whether it is positive or negative, etc.); the ease with which it can switch its exports from one market to another or from one product to another; the ease with which we can dispense with its exports to us; the proportion of its total output, or of its output of particular products, which it exports; our importance as a market for particular commodities; the ability of this and other countries to offer loans; the stability of our market as compared with that of other countries; and so on. Nevertheless, it seems reasonable to take as one important measure of a country's dependence on us the proportion of its exports which it sends here.

It is with this aspect of the problem that the present note is mainly concerned, although account is also taken of the rival bargaining power of the United States as a large importer. The figures show that a large proportion of our pre-war trade was done with countries which either are not greatly dependent on our market or are dependent to an even greater extent on that of the United States. This suggests that our bargaining power as a large importer is not perhaps so great as is commonly assumed in popular discussion. A false impression is apt to be given by quoting only a few outstanding examples, such as New Zealand and Denmark, of countries where our bargaining power is ad-

mittedly great, while ignoring the large number of important markets where our bargaining power is small.

This country has hitherto been the largest market in the world for imported goods. In 1938 we took one-fifth of the exports of the rest of the world.[1] But, as has been mentioned above, the percentage for individual overseas countries varied from a negligible figure to over 90%.

A table has therefore been prepared (Table V) showing, in column 2, the percentage of each country's merchandise exports sent to the United Kingdom in 1938. The countries are arranged in order of their dependence on our market as measured by this percentage.[2]

Table I shows in summary form the number of countries sending various proportions of their exports to us.

TABLE I

Percentage of overseas country's merchandise exports sent to U.K. in 1938.	Number of countries.[3]
91–100	1
81– 90	1
71– 80	1
61– 70	1
51– 60	7
41– 50	6
31– 40	14
21– 30	10
11– 20	20
1– 10	37
	98

	Billion dollars.		
[1] Exports of all countries	21·9	"Network of World Trade,"	p. 171
U.K. exports	2·3	Ibid.,	p. 167.
Exports of all overseas countries	19 6		
Of which to U K.	3 9	Ibid.,	p. 171.

[2] The proportion of a country's exports taken by us is, of course, very much greater than the proportion we take of its total output of goods and services, since exports are only a fraction—though a very important fraction—of a country's national income (probably not much over one-tenth for the world as a whole). But the crudest comparison of national income and export figures shows that this last proportion varies widely, from one-twentieth or less for countries like the U.S. and the U.S.S.R., to substantial fractions like one-fifth, one-quarter and one-third for countries like New Zealand and some of the smaller states of North and West Europe. (If imported materials used in making exports are allowed for, these proportions are, of course, reduced.) For this reason, a list of countries arranged in order of the proportion of their total output sent to us would differ considerably from that in Table V.

[3] Including a number of composite "countries" (see notes to Table V).

There are ninety-eight countries (including certain composite "countries") in the table. It will be seen that thirty-seven countries sent one-tenth or less of their exports to us; fifty-seven sent one-fifth or less; at the other extreme, only four sent more than three-fifths of their exports to the United Kingdom.

This analysis, however, does not get us very far, since each country is given equal weight, however great or small its importance as a trader in general, or as a market for United Kingdom goods.

Column 3 of Table V has, therefore, been drawn up to show the importance of each country to us as a pre-war export market. The figures show the percentage of all our exports sent to each country.[1]

The information is summarised in Table II:

TABLE II

Percentage of overseas country's merchandise exports sent to U.K. in 1938.	Percentage of all U.K. exports in 1938 sent to each category of country.[2]
91–100	4·4
81– 90	4·1
71– 80	0·2
61– 70	—
51– 60	13·3
41– 50	4·3
31– 40	29·9
21– 30	12·0
11– 20	17·1
0– 10	14·7
	100·0

This table, however, which refers to merchandise trade only, exaggerates the dependence on our market of countries producing gold for export. It seems unrealistic not to take into account the gold exports of countries like South Africa. There are obvious arguments, however, against including South Africa's gold exports in her exports to the United Kingdom; although most of her gold was in fact sent to this country, South Africa was not dependent on us for the sale of her gold. It is unlikely that we could exert much pressure on such a country by refusing to take its gold exports. Perhaps the most realistic

[1] The percentage of our imports bought from each country is also shown, for reference, in column 5.

[2] There may be slight inaccuracies in these figures owing to rounding off errors.

TABLE III

Percentage of overseas country's exports sent to U.K. in 1938. (Gold exports, or gold output if lower, are deemed to go to U.S.)	Percentage of all U.K. exports in 1938 sent to each category of country.[1]	Main countries included. (Figures show percentage of all U.K. exports sent to each country in 1938).[1]
91–100	4·4	Eire 4·4
81– 90	4·1	New Zealand 4·1
71– 80	0·2	
61– 70	—	
51– 60	5·1	Denmark 3·4
41– 50	11·4	Australia 8·2 Finland 1·2
31– 40	20·6	India and Burma 7·9 Canada 4·9 Argentina 4·2 Egypt 1·9
21– 30	11·7	Netherlands 2·8 Sweden 2·5 Norway 1·7 Iran 1·2 "Other British West Africa" 1·1
11– 20	27·8	South Africa 8·5 U.S.A. 4·4 France 3·3 British Malaya 2·4 Belgium 1·8 U.S.S.R. 1·4 Poland 1·1 Misc. European countries 2·3
0– 10	14·7	Germany 4·4 Italy 1·2 Brazil 1·1 Misc. Far Eastern countries 3·6 Misc. European countries 2·5 French, Portuguese and Belgian Africa 1·0
	100·0	

course is to count gold produced for export as going to the United States.[2] This has been done for the purpose of calculating the figures in Table III.[3] Where a country's gold production

[1] There may be slight inaccuracies in these figures owing to rounding off errors.

[2] It may be relevant to recall the "gold scare" of 1937 as an indication of the influence the United States could exert on gold producing countries. It is true that this influence will be greatly reduced under the Bretton Woods agreement, but in discussing the possible use of Britain's bargaining power as a major weapon of policy we are postulating a world in which international organisations such as the Monetary Fund would not be in operation.

[3] Strictly speaking, Table III merely includes gold produced for export in a country's total exports but not in its exports to the U.K.; its destination elsewhere is irrelevant. In the later analysis, however, gold produced for export is counted as going to the U.S., and it facilitates exposition to introduce the assumption at this stage.

was less than its gold exports, the former figure was used, so as to avoid the inclusion of gold not produced in the country.[1]

The last column in Table III shows the chief countries in each group.

Two countries (Eire and New Zealand), which between them took 8½% of our exports, were almost wholly dependent on our market; each sent over 80% of their exports to us. Apart from these two, the only important country dependent on us for more than half of its exports was Denmark, which took 3% of our exports.

At the other extreme we find a large number of countries dependent on us for one-fifth or less of their exports. As much as 42½% of our exports went to these countries.

A number of countries which sent *over* one-fifth of their exports to us, moreover, found their chief single market not with us but in the United States or elsewhere. These countries, of which Canada is the most important, took a further 7% of our exports.

Adding these two last categories together, we find that half our exports went to (and, as can be calculated from column 5 of Table V, nearly half our imports came from) countries which either depended on us for one-fifth or less of their exports, or found their chief market elsewhere.

If, for the sake of argument, we call these countries " unexploitable " and the remainder " exploitable " (the classification is admittedly arbitrary and the nomenclature provocative), we may draw up the accompanying Table IV, showing the geographical distribution of the two types of country.

The " exploitable " and " unexploitable " countries are shown in Map I.[2]

It is of some interest to analyse the chief markets of each country, and these are shown in column (4) of Table V. From this column we find that, if gold exports (or gold production if that is lower) are deemed to go to the United States:

50½% of our exports went to countries, other than the United States, for which the U.K. was the chief market;

[1] This adjustment has the effect of moving five countries from one category of the table to another. The percentage of their exports which those countries sent to the U.K. is altered as follows:

Australia . . .	54%	becomes	49%
" Other British West Africa "	48%	"	30%
South Africa . . .	36%	"	13%
Southern Rhodesia .	33%	"	18%
U.S.S.R. . . .	29%	"	20%

The gold production in " Other British West Africa " is mainly in the Gold Coast.

[2] See p. 33.

4½% went to the United States;
22½% went to countries for which the United States was the chief market;
23% went to countries which found their chief market neither in the United States nor in the United Kingdom (including 6½% going to countries for which the U.S. was a bigger market than the U.K.[1]).

It will be noted that one-third of our exports went to countries (shown in Map II [2]) for which the U.S. was a bigger market than the U.K. (including the U.S. itself); likewise, as can be calculated from column 5 of Table V, one-third of our imports came from these countries.

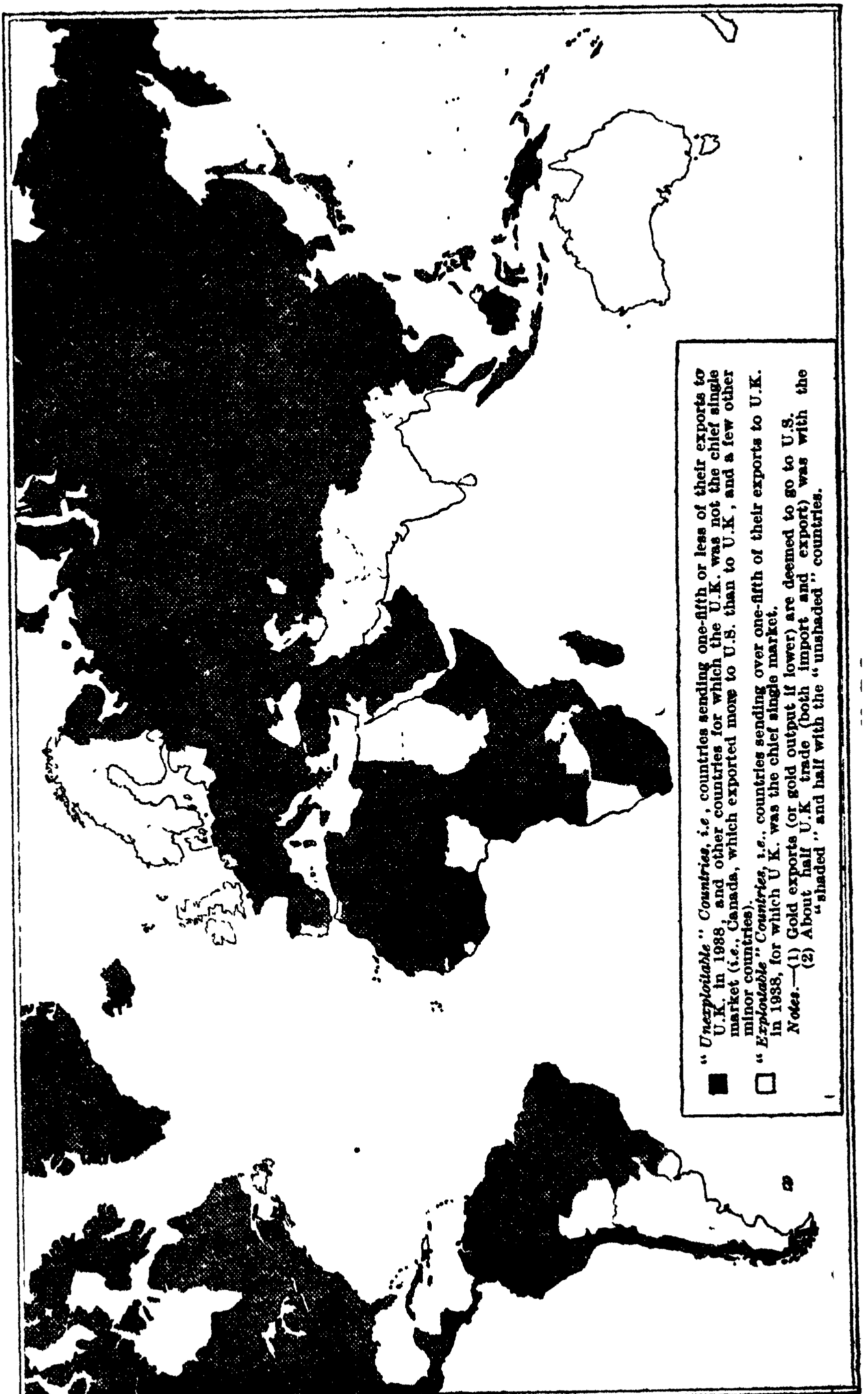
TABLE IV.

"Exploitable" countries.	Percentage of all U.K. exports in 1938 sent to "exploitable" countries.	"Unexploitable" countries.	Percentage of all U.K. exports in 1938 sent to "unexploitable" countries.
Scandinavia, Baltic States and Holland	12½	Russia, and most European countries south of Baltic	18
Australia and New Zealand	12	Most of North and South America	12
India, Burma and Ceylon	9	Union of South Africa	8½
Argentina and Uruguay	5	Most Far Eastern countries	6
Eire	4	Miscellaneous, mainly African countries	5
Miscellaneous	8		
	50½		49½

The figures in this note refer, of course, to pre-war conditions; but, despite the far-reaching changes that have taken place during the war, it is hoped that they may provide some basis for judging, *inter alia*, the proportion of our trade which we might expect to influence by using our bargaining power as a large importer (if such were our policy), the proportion which we could not hope to influence, and the proportion on which we might lose ground if other countries adopted the same policy. The figures do not provide any final answer, but they serve as a salutary reminder that a large part of our trade is done with countries that do not depend greatly on our market, and a large part with countries (including many within the Empire such as Canada, South Africa and British Malaya) where the pull of the United States' market is greater than that of our own.

[1] See note to column 4 of Table V.

[2] See p. 34.


" *Unexploitable* " *Countries, i.e*, countries sending one-fifth or less of their exports to U.K. in 1938, and other countries for which the U.K. was not the chief single market (*i.e.*, Canada, which exported more to U.S. than to U.K, and a few other minor countries).
" *Exploitable* " *Countries, i.e.*, countries sending over one-fifth of their exports to U.K. in 1938, for which U K. was the chief single market.
Notes.—(1) Gold exports (or gold output if lower) are deemed to go to U.S.
(2) About half U.K trade (both import and export) was with the "shaded" and half with the "unshaded" countries.

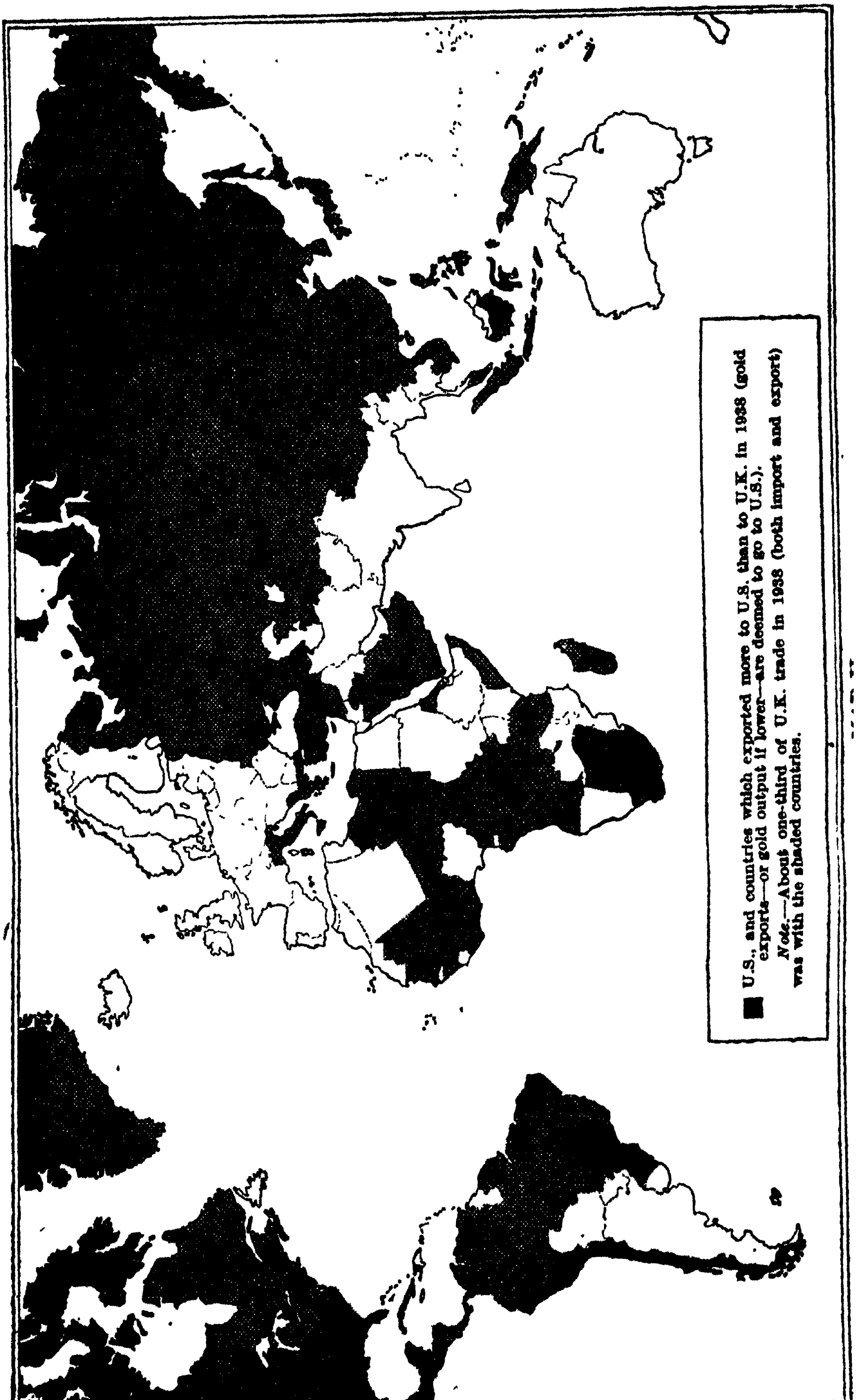

U.S., and countries which exported more to U.S. than to U.K. in 1938 (gold exports—or gold output if lower—are deemed to go to U.S.).
Note.—About one-third of U.K. trade in 1938 (both import and export) was with the shaded countries.

TABLE V

Country.	Percentage of country's merchandise exports sent to U.K. in 1938.	Percentage of all U.K. exports sent to country in 1938.	Chief market	Percentage of all U.K. retained imports bought from country in 1938.
(1)	(2)	(3)	(4)	(5)
Eire	93	4·4	U.K	2·6
New Zealand	84	4·1	U.K.	4·9
"Other British East Africa"	72 [1]	0·2	U.K.	0·4
Bolivia	63	—	U.K.	0·4
Falkland Islands	59	—	U.K.	—
Jamaica	58	0·4	U.K.	0·5
Denmark	56	3·4	U.K.	4·4
British Nyasaland and S. W. Africa	55	0·1	U.K	0·1
Australia	54 (49 [2])	8·2	U.K.	7·8
Ceylon	54	0·7	U.K.	1·3
Trinidad and Tobago	52	0·5	U.K.	0·5
Nigeria	49	0·9	U.K	0·7
Anglo-Egyptian Sudan	48	0·3	U.K.	0·4
"Other British West Africa"	48 (30 [2])	1·1	U.K.[3]	0·4
Finland	45	1·2	U.K.	2·3
Latvia	43	0·4	U.K.	0·5
Palestine	43	0·4	U.K.	0·3
Canada	40 (35 [2])	4·9	U.K.[3]	8·6
Dominican Republic	40	—	U.K.	0·2
Northern Rhodesia	40	0·3	U.K.	0·4
Lithuania	38	0·4	U.K.	0·4
"Other British West Indies"	37	0·5	U.K.	0·2
India and Burma	36	7·9	U.K.	5·7
Union of South Africa	36 (13 [2])	8·5	U.K [3]	1·3
Estonia	36	0·2	U.K.	0·2
"Other Northern North America"	34	0·2	U.K	0·3
Southern Rhodesia	33 (18 [2])	0·8	U.K [3]	0·3
Costa Rica	33 [1]	—	U.S	0·1
Argentina	33	4·2	U.K	4·4
"Other North Africa"	32	0·1	U.K.	0·3
Egypt	31	1·9	U.K	1·3
Curacao	29	0·1	U.K	1·7
U.S.S.R.	29 (20 [2])	1·4	U.K [3]	1·9
Norway	28	1·7	U.K.	1·2
Iran	27	1·2	U.K.	1·0
Uruguay	26	0·5	U.K.	0·5
Sweden	24	2·5	U.K.	2·9
Chile	24	0·4	U.K. and U.S.[3]	0·6
Netherlands	23	2·8	U.K	3·4
Portugal	22	0·7	U.K.	0·4
Kenya—Uganda	21	0·7	India, Burma, Ceylon	0·3
Spain	20	0·7	Germany	0·6
"Other Continental Asia"	19	0·3	India, Burma, Ceylon	0·2
Guianas	19	0·2	Canada	0·1
Poland—Danzig	19	1·1	Germany	1·1
Peru	18	0·2	U.S	0·4
Iraq	18	0·5	France	0·3
Tanganyika	18	0·1	British East Africa	0·1
"Other non-Continental Europe"	18	0·1	U.K. and Norway	0·1
U.S.A.	17	4·4	U.K.	13·2
Mexico	15	0·2	U.S	0·2
British Malaya	15	2·4	U.S	1·2
Haiti	14 [1]	—	U.S.	—
"Other Oceania"	14	0·1	Japan [3, 4]	0·2
"Other Continental Europe"	14 [1]	0·5	Italy	—
Cuba	14	0·2	U.S.	0·6
Belgium—Luxemburg	14	1·8	France	2·2
Roumania	12	0·3	Germany	0·4
France	12	3·3	Algeria, Tunis	2·6
Switzerland	11	0·7	Germany	0·8
Paraguay	11 [1]	—	Argentina	—
Tunis	10	—	France	0·2
Ecuador	10 [1]	—	U.S.	—
Yugoslavia	9	0·3	Germany	0·3
Czechoslovakia	9	0·5	Germany	0·8
Greece	9	0·8	Germany	0·2
Brazil	9	1·1	U.S.	0·9
"Other S.E. Asia"	9	—	British Malaya	0·1
China (ex. Manchuria)	8	0·9	Hong Kong, Macao	0·6
Hungary	8	0·1	Germany	0·3
French Morocco	7	0·1	France	0·1
Germany	6	4·4	Netherlands	3·4
"Other French Africa"	6	—	France	—
Syria—Lebanon	6	0·1	"Other Cont. Asia"	—
Italy	6	1·2	"Other Africa"	0·8

TABLE V (*contd.*)

Country.	Percentage of country's merchandise exports sent to U.K. in 1938.	Percentage of all U.K. exports sent to country in 1938.	Chief market.	Percentage of all U.K. retained imports bought from country in 1938.
(1)	(2)	(3)	(4)	(5)
Austria	6	0 3	Germany	0 2
"Other Africa"	5	—	"Other Africa"	—
Algeria	5	0 2	France	0·3
Netherlands Indies	5	0 8	British Malaya	0 6
Japan, Korea, Formosa	5	0 4	Manchuria	1 0
Bulgaria	4	—	Germany	0 1
Hong Kong and Macao	4	0 8	China	0·1
Turkey	3	0 5	Germany	0 1
Philippines	3	0 2	U.S.	0·1
French Indo-China	2	0 1	France	0·1
Venezuela	2	0 3	Curacao	0 2
French West and Equatorial Africa	2	0 2	France	—
Thailand	1	0 3	British Malaya	—
Manchuria	1	0 1	Japan [4]	0·1
Belgian Congo, Ruanda Urundi	—	0 1	Belgium	—
Portuguese Africa	—	0 4	Portugal	—
Colombia	—	0 4	U.S.	—
Panama	— [1]	0 1	U.S.	—
Guatemala	—	—	U.S	—
Honduras	— [1]	—	U.S.	—
Nicaragua	— [1]	—	U S.	—
El Salvador	— [1]	—	U.S.	—
Guadeloupe and Martinique	—	—	France	—
		100 0		100 0

[1] The possible error in these figures due to rounding exceeds 5 (see note below to column 2).
[2] The figures in brackets show the percentage of the country's total exports sent to the U.K., if gold exports (or gold production if that is lower) are deemed to go to the U.S. These adjusted figures are shown in column 2 only where the percentage for merchandise exports is altered by 5 or more.
[3] If gold exports (or gold production if that is lower) are deemed to be sent to the U S., the U.S. becomes the "chief market" in cases marked [3].
[4] Including Korea and Formosa.

NOTES ON TABLE V

This table is derived mainly from Annex III of *The Network of World Trade*, League of Nations, 1942, which shows merchandise trade only and excludes trade in gold and silver. Figures for gold exports were taken from Annex II of the same publication, and, in the case of Russia, from the Ninth Annual Report of the Bank for International Settlements. Gold production figures were taken from *The Statistical Year Book of the League of Nations* and *The Mineral Industry*.

Column (1).

The definitions of the composite "countries" may be found on p. 106 of *The Network of World Trade*.

Column (2).

Since the figures in *The Network of World Trade* are rounded off to the nearest million dollars, there is some inaccuracy in the percentages shown in column (2). This does not, however, appreciably affect the general picture shown since the possible error is of importance only for a few countries with a very small trade. (The countries for which the possible error exceeds 5 are marked [1]. It will be seen that these countries took less than 1% of our exports.) It was therefore thought better to work entirely on the relatively comparable figures shown in *The Network of World Trade* than to seek to increase the accuracy of the figures, by reference to other publications, at the expense of reducing their comparability. (In one extreme case, however—the Falkland Islands—another publication was used to calculate the percentage in column (2).)

Columns (3) *and* (5).

The figures derived from *The Network of World Trade* were supplemented where necessary from the *Annual Statement of the Trade of the U.K., 1938.* A few trifling adjustments have been made to the percentages so as to make the totals add up to 100·0. As in *The Network of World Trade*, U.K. trade with the Channel Islands is excluded.

Column (4).

The countries listed down the side of the table in Annex III of *The Network of World Trade* were used for the purpose of determining the "chief markets." For this reason composite "countries," such as "Other Continental Asia," appear in a few cases as the chief market. The chief market shown is in most cases, however, a major trading nation.

A number of the chief markets shown may, for obvious reasons, be somewhat misleading (*e.g.*, Curacao as the chief market of Venezuela, and Hong Kong as the chief market of China), but such cases are small in number.

Of the countries for which neither the U.K. nor the U.S. was the chief market, those for which the U.S. market was bigger than that of the U.K., according to *The Network of World Trade*, were: Japan, Manchuria, China, Netherlands Indies, French Indo-China, Hong Kong, Italy, Greece, Turkey, Venezuela, Belgian Congo, French West and Equatorial Africa, the Guianas, Tanganyika (the last three qualify for this list only if gold exports—or gold production if lower—are included and deemed to go to the U.S.). These countries took 6½% of our exports—the figure given in the last paragraph but two of the text.

Note on Maps I and II

The classification of countries in Table V (on which the figures in the text are based) is that adopted in *The Network of World Trade*, and therefore includes some groups of countries. In order to draw Maps I and II it was necessary to obtain further details for the individual countries within these groups by reference to other sources. The statistics readily available were not always entirely satisfactory, and, while use was made of the best information obtainable from such publications as the *Statistical Abstract of the British Empire*, the League of Nations' *International Trade Statistics* and the U.S. and U.K. Trade Returns, it is possible that one or two minor countries are shown in the wrong category in Maps I and II; but the general picture is certainly not appreciably affected.

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THE TERMINOLOGY OF TAX ANALYSIS

THE analysis of the working of taxes through the economic system is commonly built round two propositions, universally known and apparently as universally accepted. The first of these is concerned with the classification of taxes, the second with the method of analysis of their operation. These two propositions may be expressed as follows: (i) Taxes can most conveniently be divided into two categories, *direct* and *indirect*; direct being those levied immediately on the persons "who are to bear the burden" (O.E.D.); and indirect those which are not so levied. (ii) In the case of an indirect tax, the party who has to make the contribution to the revenue authorities normally proceeds to shift the "burden" somewhere else. In view of this, it follows that the analysis of the operation of taxes can most conveniently be tackled by pursuing this shifting process through the economic system to the point of "incidence," or perhaps to further points, known as "effects" or "diffusion."

Neither of these propositions is wholly satisfactory, as is evident from confusions which have arisen in classifying and analysing taxes; and it seems clear from the literature that unless they are very carefully handled they do not lead to a process of analysis which brings out clearly the factors of greatest economic importance.

In respect of the classification of taxes into direct and indirect, it is hard to disagree with the writer in the *Handwörterbuch* that "the generality of the acceptance of these terms is only equalled by the differences in their application."[1] It is natural, indeed, to expect that as the composition of tax structures changes from age to age, the usage of the terms should be modified in the course of time, and this is no doubt part of the explanation. The most famous aberration of all—the declaration by the Supreme Court of the United States that income tax is not a direct tax—had an extra-economic explanation;[2] but current differences in the practice of experts are far too important to be brushed aside by explanations along these lines. To-day, for instance, we find the O.E.D. declaring that the local rate is a

[1] *Handwörterbuch der Staatswissenschaften*, article on direct and indirect taxes.

[2] The decision was given in respect of the income tax of 1862, and was an effort to circumvent Article I, § 2, C3 of the U.S. Constitution, which stated that "direct taxes shall be apportioned among the several States according to their population"—an obligation which would have nullified the purpose of the income tax.

direct tax, while most economists, and the Central Statistical Office, would agree that it is an indirect tax. Motor-licence duties on private cars are regarded by the revenue authorities as direct taxes, most economists would probably class them as indirect, while the C.S.O. covers itself (in the notes to the Budget White Paper calculation) by stating that "they are here regarded as direct taxes." Clearly this is an unsatisfactory state of affairs, and we should be able to improve it by taking a little thought.

Parallel difficulties arise in the use of the all too familiar terms "burden" and "incidence." It is doubtful, to begin with, whether the term "burden" without qualification has any right in the discussion of a redistributive system of public finance. Apart from this consideration it is (as we shall see) used in at least two quite different connotations by different writers (by the Colwyn Committee in both, in different sections of their Report). The usage of the word "incidence" is in no better condition. The Colwyn Committee declared—on what evidence it is not clear [1]—that in popular usage the term covered "not only the initial burden of a tax, but also the whole range of consequential effects," while for economists "incidence is only concerned with where the more immediate burden of the tax, as a tax, rests." [2] Small wonder that Cannan had wanted to abandon the term altogether.[3]

I. *The Classification of Taxes*

It is not easy to trace the origin of the terms "direct" and "indirect" as a technical classification. In France the phrase "assise directement" was apparently in use for personal taxes at least as early as the sixteenth century.[4] Adam Smith uses the term "direct tax," but in a context which makes it difficult to decide whether he considered himself to be employing it in a technical sense.[5] In the United States at the time that Adam

[1] This was certainly not the view of Edgeworth, see below, p. 48. Marshall, who mainly used tax analysis as a method of illustrating certain propositions of general theory, and was consequently not over-nice in his use of fiscal terms, certainly used the phrase "ultimate incidence" in a manner which is not consistent with the Colwyn Committee's dictum.

[2] *Report of the Committee on National Debt and Taxation*, Cmd. 2800 of 1927, p. 106.

[3] *Memoranda Relating to the Classification and Incidence of Imperial and Local Taxation of R.C. on Taxation*, 1899, p. 166.

[4] Cf. Bodin, *Six Livres de la République*, 1577, quoted in the *Handwörterbuch*, *loc. cit.*

[5] *Wealth of Nations*, Vol. II, chapter 2: "There are two different circumstances which render the interest of money a much less proper subject of direct taxation than the rent of land."

Smith was writing the term was already in very technical use, but in the highly specialised meaning of the poll tax. Prior to the introduction of the income tax, the normal English tax classification was not direct/indirect, but "assessed taxes" (on land, windows, hearths, servants and similar outward indications of wealth), on the one hand, and customs and exercise, on the other. A parallel distinction in Germany was between personal taxes and excises, in France between those "assises directement" and "tarifs." In England the assessed taxes seem usually to have been regarded as direct, but on the introduction of income tax its more obvious directness, and the decline in importance of the assessed taxes, led to income tax being regarded as the direct tax *par excellence*.

The early connotation of the term "indirect" is much more shadowy, and its use much less frequent. In one sense "indirectness" apparently consisted in the tax being levied on a commodity and not on a person, but since the commodity could not pay the tax itself, this was not very satisfactory. A more sophisticated view was that the indirectness consisted in the tax being levied indirectly on one set of people by collecting it from another set of people, who would subsequently recoup themselves from the first set. It is, of course, this meaning which lies behind the analysis of shifting. It will be observed that this interpretation already imples a theory of incidence—a theory, that is, that there exists somewhere a "real" taxpayer other than the party who is in contact with the revenue authorities.

Thus a situation was reached in which, in England at least, there was general agreement that income tax (including probably death duties) was a direct tax, while customs and excise were indirect taxes. It was over the remaining (by no means unimportant) components of the tax structure that differences of opinion arose, and still arise. As so often happens, especially in this part of the economic field,[1] confusion has arisen through attempts to force distinctions proper to different types of inquiry into the procrustean bed of a single classification. In fact, there seem to be three main uses for which we need to classify taxes. For convenience we may call these the administrative, the social accounting and the analytical uses. A single classification has only been made to serve hitherto because over a considerable

[1] Cf. the controversy over the place of indirect taxes in National Income calculations, especially Bowley, *The Measurement of Real Income*, Manchester School, April, 1940; and *Studies in the National Income*, published by Cambridge University Press for N.I.E.S.R., and J. R. Hicks, "The Valuation of the Social Income," *Economica*, 1940.

part of the territory the boundaries overlap. This does not make the strait jacket into a tailor-made.

The direct/indirect classification was clearly in origin, and is still essentially, an administrative distinction. The administrator sets out with a definite group of potential taxpayers in mind (*e.g.*, smokers, or income receivers of a certain category). He needs a distinction which makes it clear whether they are to be approached directly and personally, or through a third party. In most cases the distinction leads to an obvious classification, but there is one small difficulty.

Approach by the revenue authorities to the taxpayers may be direct, either in the sense of assessment or of collection. Thus, in the case of income-tax, assessment is direct, but collection is coming more and more to be indirect, as new methods of stoppage at source are evolved. The collection of E.P.T. is wholly indirect. On the other hand, taxpayers are in direct contact with the revenue authorities (or their deputies) when they pay their motor or wireless licences, yet these are taxes which depend not on the income of the taxpayer (from work or property), but on the fact of his desiring to enjoy the services of a particular type of capital goods. The vehicle licence duty is graded by the type of vehicle, just as the local rate is graded by the type of house; for the owner-occupier the two taxes are exactly parallel.

The British revenue authorities would appear to prefer to class as " direct " all those taxes which are *either* directly assessed or directly collected. If this is the most convenient administrative procedure, they are naturally at liberty to do so; economists cannot object if an administrative distinction does not make very good economic sense.

With the social accounting distinction we move to entirely different ground. It is now generally recognised that there are two fundamental concepts of the National Income—those which are called by the Buget White Paper the " National Income at Factor Cost," and the " National Income at Market Prices," respectively. The first of these is an objective or technical concept; the second is a subjective or welfare concept. When measuring the National Income at Factor Cost, the different commodities or services in the national output are valued according to the amounts of the factors of production which have gone to make them; the relative prices of the factors are taken to represent the rates at which the various factors are capable of being technically substituted for one another at the margin, so

that the cost of a commodity is taken to represent the amount of the nation's resources which have gone into making it. The welfare concept of the National Income reduces the different commodities to a common measure, not according to their costs, but according to their marginal utilities. In most cases (though, as we shall see not in all) the relative prices of commodities represent their marginal utilities rather better than their relative money costs represent their technical rates of substitution. But this does not necessarily mean that the Welfare measure of the National Income is superior to the Factor Cost measure. The two measures are useful for different purposes; and it seems probable that the Factor Cost measure is useful for more purposes than the Welfare measure is.

In order to deduce the Welfare measure from the Factor Cost measure we have to add in the revenue from the taxes which people have to pay in order to have the right to enjoy certain commodities (and to make a similar adjustment for subsidies). Now, what precisely are the taxes which have to be added in? The White Paper says "indirect taxes"—but what are indirect taxes in this sense?

The tax distinction which is here relevant is that between the income taxes which are already included in the returns of income on which the factor cost calculation is based, and those taxes which mark a spread between the factor cost and the demand price for the article. The distinction is essentially one between taxes on income and taxes on outlay—outlay which may consist in the outright purchase of a commodity or in securing the right to its use for a prescribed period.

The taxes which have to be added in when we proceed from factor cost to *market price* are: (i) taxes which are charged to consumers as a condition of the enjoyment of particular goods or services (such as the entertainment duty or purchase tax), (ii) taxes which are paid by producers at one stage or another of the production process of such goods (such as the duty on industrial oils, or local rates on factories). These are duly added in by the White Paper; but it also adds in local rates on houses. As we shall see, it is quite proper to do this; but local rates on houses do not stand exactly on all fours with the others.

Theoretically, at least, local rates on houses are assessed on the occupier; thus it would seem more consistent to say that the *market price* for the occupation of a house is the net rent, exclusive of rates, than it is to include rates in the "market price." Nevertheless, it is right to include rates in the computation of the

National Income according to the Welfare measure; for whether or not rates are part of the market price of house occupation, they are certainly part of the demand price, or marginal utility in terms of money. It is the inclusive rent (rent inclusive of rates) which the householder has to take into consideration when he is balancing his need for house-room against his need for other things. There is therefore no doubt that domestic rates should be added in when we are calculating the National Income on the Welfare measure; what we learn from attending to this case is that "National Income at Market Prices" is a very imperfect description of the Welfare measure.

There are some other cases where the failure to attend to this distinction seems to have led the C.S.O. into actual error. Revenue from wireless licences, and that from the licence duty on privately owned motor vehicles, belong to exactly the same category as domestic rates; they do not enter into what the consumer pays "on the market," but they do enter into what he has to pay in order to acquire the right to certain satisfactions, over and above the factor cost involved. They should be reckoned as "taxes on outlay"—or indirect taxes in the social accounting sense—and added in when we proceed from factor cost to the Welfare concept of the National Income.[1]

These adjustments—particularly the transfer of the revenue from wireless licences and from vehicle duties on privately owned cars—from the direct to the indirect category—would be an improvement in the practice of National Income calculations. It is clear from the above analysis, however, that the social accounting tax distinction is at least as definite and significant in its own field as the administrative distinction is in the other. As it is unlikely that the two classifications can ever be made to coincide completely, it would seem preferable to give them separate names—for instance, retaining the terms direct/indirect for the administrative distinction, and adopting income/outlay for social accounting purposes.

[1] It is probable that something of the same sort of argument should in principle be applied to the case of Stamp Duties. The C.S.O. treats Stamp Duties on the transfer of property as "direct" taxes. It could, however, be maintained that the payment of Stamp Duty on, *e.g.*, the purchase of a house, is incurred because the purchaser seeks to acquire certain satisfactions (more accurately to exchange lesser for greater satisfaction), and that therefore it enters into the marginal utility of his expenditure as other outlay taxes do. It would even be possible to extend the same argument to the purchase of securities; but the point is a fine one, and it must be admitted that the calculation of a "price level" for deflating such refined satisfactions would probably be an impossible task. Nevertheless it is important to notice that no logical ground for the classification of Stamp Duties into those which are and which are not direct taxes appears to exist.

In contrast to the social accounting tax distinction, which originated with, and depends on, modern methods of calculating the national income, a shadow of what we have called the "analytical" distinction has long haunted the literature,[1] in the form of a hunch that taxes which fall upon the total income or substance of the taxpayer are in a different class from other taxes, and a consequent suggestion that the term "direct" ought to be reserved for the former.

To graft this point of view on to the administrative distinction is not practicable. Yet it cannot be doubted that there is an important idea behind it, which parallels closely the normal economic distinction between general and partial analysis. Just as there are some problems in economics (*e.g.* those concerned with price and output policy) which can most conveniently be tackled from the starting-point of the single firm or industry; and others which require the standpoint of the community phenomena of spending, saving and investment, so there are some taxes whose operation is best observed from the standpoint of a particular corner of the economic field, and others of which we can only make sense against the background of general phenomena.

That a distinction is required between *partial* taxes which operate (entirely at first, and always most intensively) within the framework of a limited group of industries, and *general* taxes which effect the whole level of consumption and investment, is evident from the frustrated attempts of some of the witnesses before the Colwyn Committee [2] to treat income tax by a partial analysis, and to go about looking for "mark ups" of particular selling prices as a result of a change in income tax, for all the world as if they were tracing the effects of a rise in the tea duty.

Although for the economist the analytical classification of general and partial taxes is perhaps the most important of all, it is not on a par with the other two distinctions. In the first place, it is merely a classification of convenience—partial taxes are those whose operation can most conveniently at any particular time be traced by a partial analysis, and *mutatis mutandis* for general taxes. From this it follows that the position of individual taxes may conceivably change over time. For instance, it would have been perfectly logical for a classical economist to treat a

[1] For instance, James Mill, at least in the first ed. of his *Principles*, and in the German literature, especially J. F. Neummann and Schäffle.

[2] *Report on National Debt and Taxation*, *cit.*, p. 108, and more extensively in the Minutes of Evidence.

tax on bread by a general (Ricardian) analysis—emphasising its probable effect in driving the worker below the margin of subsistence; under present British conditions a tax on bread would call for just the same sort of partial analysis (effect on consumption of bread, and possible effect on production, and on the consumption and production of related commodities) as a tax on tea.

Secondly, there are some taxes (*e.g.*, the local rate) which, though partial in form, are of such widespread importance (in this case both on income and on capital account) that the analysis of their operation as partial taxes requires to be supplemented by an analysis of their general effects. The relative importance of the two lines of analysis depends to some extent on the period in which we are interested—for instance, in this case the partial analysis is sufficient so long as we are mainly interested in a period too short for a change in rates to have a noticeable effect on building; but in the longer period—in view of the importance of house-building as a form of investment—the effect of rates on investment may be the most important factor to consider.

I. *The Method of Tax Analysis*

The analytical classification of taxes brings us up against the method of tax analysis. A change in a rate of tax immediately sets up economic and social reactions, and necessitates readjustments, which may conceivably be felt throughout the economic system. To describe the operation of a tax Pantaleoni used the metaphor of a stone being thrown into a pond. The economist must be prepared to trace the course of the whole circle of ripples, and should be able to say which of them does most harm to the banks of the pond.

The first step in the process is to take account of where the stone enters the water. In the case of an income tax, it is easy to see this, and consequently no " theory " of incidence is required. This is the (quite sensible) meaning behind the statement that an income tax cannot be shifted. In the case of an indirect tax the accepted procedure is to start with the party which is in contact with the revenue officials, and to find out what this party does about its financial obligation; but the ensuing search may be interpreted in either of two ways.

In the hands of some writers it is primarily a search for the party whom the Government wants to tax; in the hands of others it does include the gradual unravelling of the entire economic

operation of the tax through the system. For instance, in Seligman [1] (who is mainly responsible for the shifting/incidence terminology) the emphasis is on the first of these interpretations. He speaks indeed of "effects" as well as of "incidence," but they generally appear to be no more than steps in a multiple process of shifting to the consumer.[2] In the hands of Marshall, who is using the process of tax analysis to illustrate the theory of quasi-rent, in following the adventures of the hard, bright stones we are taken a fairly long ride through the economic system.[3]

Now, in some circumstances the identification of the taxpayer, in the sense of the person who provides out of his income the difference between factor cost and market price, may be a matter of some little difficulty (*e.g.*, in the case of a tax on working capital, such as industrial oil, which plays a part in the production of a variety of goods). In respect of the great majority of outlay taxes, however, the taxpayer in this sense is perfectly obvious, and the answer can be found by common sense, without any elaborate mechanism of two- or three-tier shifting. Thus, when the tobacco duty is raised, there is no doubt in the minds of either the Government or the smokers that the stone is being thrown to the consumers of tobacco.

This being so, it would seem simpler and more direct to start not with the productive stage which the revenue authorities may find it most convenient to contact (which will, no doubt, differ from tax to tax), but with the consumer-taxpayer. This amounts to saying, for instance, that the lady sitting over there in a fur coat and smoking a cigarette, has paid purchase tax on her coat, and tobacco duty on her cigarette, rather than that the wholesale furrier has shifted purchase tax to the department store, who has shifted it to her, and the tobacco manufacturer has shifted the duty to the wholesaler, and so to the retailer, who has shifted it to the lady.

This direct approach is, in any case, obligatory for social accounting; it is, of course, the basis of the figures in the Budget White Paper. Estimates of the distribution of taxes on different income groups must also (although this is not always properly understood) [4] be based on the actual proportion of people's

[1] E. R. A. Seligman, *The Shifting and Incidence of Taxation.*

[2] Seligman also mentions a "wider" sense of effect "which denotes any of the subsequent results of taxation," but he makes no effort to examine it. Cf. *Shifting and Incidence, cit.* definitions on p. 1.

[3] *Principles,* 8th ed. Bk. V, ch. ix.

[4] Even such a careful economist as T. Barna is hazy on this point, cf. *The*

incomes during a defined period, which go not to provide the incomes of those who furnish them with goods and services, but to form the incomes of taxing authorities. The calculation is essentially one of the distribution of actual revenue collected during the period; it is not concerned with what happens as a result of consumers' incomes having been laid out in this manner.

The establishment of incidence in this sense is, of course, only the beginning of the analysis of the operation of a tax—it might even be said that it is not strictly a necessary part of that analysis. There is, however, a great convenience in starting the analysis with the consumer in this manner, especially since, unless it is very carefully handled, the shifting mechanism is apt to run on too narrow lines. The operation of a tax has too often been conceived in terms of the movements and counter-movements of a certain "lump" of tax, whose presence at any time can be perceived by a definite swelling in the price which is the incidence. (The lump of tax might either be transmitted whole from hand to hand, or might split up—a case of "shared" incidence—in which case the trajectories of the different fragments would have to be watched, but their behaviour would be assumed to be broadly similar to that of a complete lump.)

When the analysis is conducted along these lines it is mainly appropriate for discovering incidence in the limited Seligman sense, which is, in fact, very near the social accounting sense; as a scheme of the full operation of a tax it is obviously far too narrow. Even on its own grounds it does not allow, for instance, for the manufacturer preferring to vary quality rather than price, or the landlord increasing the repairs he is prepared to do after a rise in rates, rather than conceding a lower net rent.

Much more important, the shifting mechanism is not convenient for taking into account changes in related products or factors. Suppose, for instance, our young lady is now munching a chocolate, having given up smoking when the tax went up. The shifting mechanism can only tell us that the tobacco manufacturer cannot pass on the tax, and that the lady "evades" it—although she has no intention of defrauding the revenue, and is merely registering an adjustment of her preferences to the new price situation. We should be better employed in trying

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Redistribution of Incomes through Public Finance in 1937, especially the discussion of the incidence of indirect taxes on pp. 141–2. On p. 126 he excuses himself from an analysis of the distribution of the revenue collected in 1937 from Land Tax, on the ground that the incidence is on the original land owners at the time when the tax was imposed—*i.e.* in the reign of William III.

to measure the loss of (combined) surplus in the tobacco industry, and the effect of the restriction of output which it implies, and setting it against changes in surplus in the confectionery or other industries, than in sitting down under this lame result. Finally, there is the possibility that the shifting mechanism may be misapplied to the operation of income tax, with the absurd results which were produced by some of the Colwyn witnesses.

The fundamental trouble with this mechanism of analysis is that it does not go far enough or deep enough. Indeed, there has commonly been (as we have seen) some uncertainty as to how far the analysis *should* be carried; this doubt essentially arises (as has been suggested above) from different interpretations of the term "incidence," and consequently of the goal of the inquirer. Not infrequently—*e.g.*, by the Colwyn Committee—there has been an attempt to draw a line between the near and the distant ripples, designating the former "incidence" and the latter "effects" or "diffusion."

Now, as we have seen, there is a genuine difference between incidence in the social accounting sense and incidence in the sense of the economic working of the tax. In some exceptional circumstances—*e.g.*, where consumers' demand or the supply of the factors is highly inelastic—the answer to the analytical inquiry and to the statistical calculation may be practically the same, but this can only be a rare occurrence. In some other circumstances—*e.g.*, where the taxed commodity has no close relatives—there may occur a genuine discontinuity in the middle of the ripples, most of the operation being confined within narrow limits. This probably implies that for most purposes we need not bother to carry the analysis farther; but it does not alter the fact that we are concerned with an analytical, and not an accounting concept. In any case, it is never safe to assume that the discontinuity exists. In most circumstances (as the Colwyn Committee soon discovered) it is very difficult to draw a satisfactory line between the near and the further working of a tax.

It was largely the fear that the analysis would be too narrow and would stop half-way at some imaginary point called "incidence" which caused Cannan to dislike the term.[1] Edgeworth also would have no truck with any dichotomy between incidence and effects, although terminologically he was in the opposite camp from Cannan.[2] Undoubtedly they were justified in relation

[1] Cannan, *Memoranda before R.C. cit.*

[2] Cf. especially the very interesting footnote to p. 151 in *Collected Papers*, Vol. II. Edgeworth cut the Gordian knot by blandly declaring "incidence here

to what they had in mind. What neither Edgeworth nor Cannan perceived (as at the time they were writing they hardly could have done) was that there is also a distinct and important meaning in the social accounting sense of incidence, and, further, that this is a calculation which can be made with a fair degree of statistical accuracy and completeness. For the unravelling of incidence in the sense of the economic working out of a tax, on the other hand, we must largely rely—partly, but not wholly, for want of adequate data—on deduction and inference.

We arrive thus at two fundamental concepts in fiscal theory: (i) the social accounting calculation of the proportion of people's incomes paid over to taxing authorities in a defined period, and (ii) the analysis of all the economic adjustments through time and space resulting from a particular tax. These two concepts are different in kind, there is no question of one being a sort of first stage of the other. Social accounting is concerned with a *statistical* comparison at a moment of time, corresponding to the period covered by the statistics (because of the nature of the data, this will usually be a year). The analytical concept is essentially hypothetical. It is a comparison of two complete economic situations, one with a particular tax in force, the other without it. One of these set-ups will normally be imaginary, although statistical data on past changes are not entirely lacking.

The statistical calculation can, and naturally should be, extended from tax to tax, so that the income distribution of the entire tax structure can be considered at once. It can be further extended to at least parts of the expenditure structure—although this raises more difficult logical questions—to ascertain the extent of income redistribution through public finance. The analytical inquiry, on the contrary, can only be concerned with a single tax or group of taxes at a time—it makes nonsense to imagine the whole tax structure away. It follows that it is not concerned with what becomes of the revenue of the tax (which is an entirely separate analysis) except in the rare case when the two cannot be separated—*e.g.*, the sugar duty and the beet sugar subsidy. It is, of course, possible, and just as desirable, to analyse the operation of subsidies (as negative taxes) in a similar way.

If so much is accepted, it remains to determine what our two concepts are to be called. For the first the term "Burden" has already been used in a technical sense;[1] no doubt following

denotes all those effects of taxation with which the economist is concerned." His concept is entirely consistent with what is called "effective incidence" below.

[1] Shirras and Rostas, *The Burden of British Taxation*.

Pigou, who declares (on what evidence is not clear) that " burden is generally conceived to be represented by the money raised in revenue." [1] It was also used in this sense by the Colwyn Committee in their extension of Sir Herbert (Lord) Samuel's calculations; but they evidently did not consider that there was anything technical about the use, since they also employed it in a much wider looser sense when discussing the effects of taxation. It is evident from this that the term " burden " will not do; apart from the fact that its implications are all wrong, it is too liable to cause confusion by being used both in a technical and in a vague non-technical sense.

It is equally apparent that the term " incidence " by itself cannot be used for either concept; yet the idea behind it, in fact, covers everything we need. In another place [2] it has been suggested that instead of the term " burden," the term " formal incidence " might be adopted for the social accounting concept; while the term " effective incidence " [3] would be appropriate for the analytical concept. It is hoped that these terms are sufficiently different from what has gone before to be confinable to technical usage, and at the same time sufficiently traditional to be conveniently understood.

It hardly needs emphasising that although the social accounting concept is truly formal, in the sense that in making the calculation we are not concerned with the adjustment of the lay-out of incomes as a result of public finance, it is not therefore insignificant. On the contrary, as the war-time Budget White Papers have shown, it is essential for a rational direction of policy. The term " effective incidence " seems preferable to " effects " or " diffusion " because it emphasises that we need to cast the net wider than either the primary or the secondary consequences of a tax, and acknowledges that the operational process is continuous.

URSULA K. HICKS

[1] *A Study in Public Finance*, p. 195.

[2] *The Incidence of Local Rates*, by J. R. and U. K. Hicks, published by Cambridge University Press, for N.I.E.S.R., 1945.

[3] These terms are derived from Goschen, *Collected Essays*, who speaks of the incidence of rates " in form and in effect."

THE PROFIT MOTIVE AND THE ECONOMIC INCENTIVE

Now that we are entering the reconstruction period, and after the talk there has been of late about the "profit motive" and the "economic incentive," it is as well to ask ourselves yet again what is and what is not wrong in these ideas as they were commonly accepted. My exposition may be a little rambling, but that does not matter provided that the salient points are brought out.

Thinking neither of the philanthropist nor of the whole-hearted self-seeker, but of what Marshall called the "normal man," we may lay it down, I think, without fear of much contradiction, that this "normal man," if industrialist, must be supposed to have at least the same sort of interest in the lay-out of his factory as, say, in the design of his garden—the same but of a higher order, because it expresses himself more at the core. (Some people would only agree subject to certain limitations, but let that pass for the moment.) He exercises similar powers of selection, based on the rational preferences within his choice. If you told him that he was only trying to make more money, he might hastily assent, particularly if he had a smattering of Political Economy. Nevertheless, it would not be true, I should say, in nine cases out of ten. His real meaning would be that in the main he strove after efficiency, and naturally assumed that in the degree in which he attained it he would make more money. Pecuniary gain, I should hold, only figures, more or less according to his nature, in the complex of his motives: but it goes without saying that he would not be so foolish—and indeed so regardless of his duty—as to do what it was not worth while doing from the point of view of results. Efficiency implies this.

The last few words of the above paragraph furnish one clue to the maze of misunderstanding over this matter. Watching the employer, we observe that he is constantly preoccupied with the monetary considerations which have a bearing upon cost in relation to price, for instance with the relative advantages in net returns of increasing his plant installation or his labour equipment, or of economising in material. This means trimming the ragged edges of his undertaking to maximise the net proceeds. He must aim at getting equi-marginal returns from the various steps that he takes, to make the best of his job. Similarly, as consumers, we must all try to buy in such a way as to get equi-marginal returns

from our purchases per unit of expenditure to make the best of our incomes. But it would be ridiculous to say that we thereby prove ourselves to be sordidly driven. So when the employer makes adjustments at the limits of his business in the manner I have indicated, it by no means follows that in directing his life he is governed solely, or mainly, by expectation of personal gain; that he would have been, say, a maker of blacking rather than a manufacturer of machinery had he foreseen more profit from being the former than from being the latter. Let me take a strong case to illustrate. The Building Committee of a Town Council, concerned with the erection of a Town Hall, will naturally give attention to the cost of brick for certain parts as against the cost of stone, or, say, the advantages of five storeys on a given ground space as against six on a smaller ground space. These and other matters of detail involve calculations of relative costs, but the project as a whole is, *ex hypothesi*, entirely outside the realm of economic incentives. Or, again, consider the work of the architect. He may allow for this and that substitution or omission in making his plans, but his basic design is independent of these, and can by no means be regarded as the mere integration of cost and consequences at each stage in the building up of his idea.

In a recent communication to a daily paper, it was argued that without large rewards business leaders would not be adventurous. This is to put the cart before the horse. (Raleigh's dream of El Dorado, by which he was obsessed, originated in his restless daring, not in cupidity.) A man is adventurous because he has an adventurous spirit. But, of course, it is a fact that he may be deterred from giving vent to it if, on weighing up the chances, the fruits of success do not strike him as ample enough to counterbalance the possibilities of failure. Inventiveness is analogous. It is undeniable that a self-respecting man who has discovered something of industrial value may not unnaturally feel aggrieved and be discouraged if his reward is niggardly, but no one would commit himself to deducing from such a fact that his inventiveness was derived from the hope of a colossal reward. That there is a pretty prevalent desire to make money we must all allow, but it is not the sole or the fundamental motive force in economic functioning. Much of this force proceeds directly from the individual's inherent faculties without the aid of incentives, and in so far as incentives are responsible they are not all of them economic incentives.

However, recognising that money counts personally in human affairs and is often over-valued is not the same thing as believing

that the expectation of gain plays the like part in the productive system as steam in the steam engine: that the larger the prospective gain the better the work, as the higher the steam-pressure the greater the horse-power generated. It is true that the bad habit of excessive acquisitiveness can easily be contracted. Even the artist may prostitute his genius and aim at popularity and opulence, but otherwise he produces what his art tells him to produce, and then tries to sell it for as much as he can get. There is a greedy strain in human nature; but it weakens among the really civilised as enlightenment brings out more agreeable qualities. That there is still a cult of money, we must all be aware, but people are turning away from it with indifference, if not with contempt. Today we seem to be a compound of idealism and self-seeking, with the former steadily gaining in ascendency; though, maybe, in looking at the present against the sombre background of the past, one is liable to view things through glasses slightly rose-tinted.

It used to be argued, as a sort of corollary from the raw "economic inducement" creed, that, other things being equal, the joint-stock company could not be expected to show the same resourcefulness as the private business, because in the latter the benefit of exceptional originative power went to the owner, who was the efficient cause, whereas in the former it went in bulk to the shareholders, who were not the efficient cause. But recent history, according to my reading of it, lends but little support to this conclusion. The chairmen and managing directors of great concerns, whose earnings do not vary directly as the profits of their concerns, would not appear to be lacking in forcefulness as a class. Moreover, in the matter of taking the long view, and of insuring, by expenditure on research, that new discoveries and inventions will be forthcoming, joint-stock companies are anything but behindhand in comparison with private businesses. This teaching of experience is by no means surprising: self-expression in achievement, for which capital under successful joint-stock organisation is comparatively unlimited, is ordinarily a deeper motive in human affairs than pecuniary gain with those who count most. Pretty much the same can be said of co-operative societies, municipal enterprises and such State schemes as the Central Electricity Board. We are getting to be a highly heterogeneous agglomeration of business types. In between private enterprise at the one extreme and social enterprise at the other extreme, we find innumerable mixtures of both to choose from, embodying different degrees of public control to suit particular circumstances. This

must be all to the good, for it is inconceivable that any one arrangement should be superior to any other in every respect and for every purpose. Individual initiative is, of course, vital, in all ranks, whether in organisation, administration or executive work; and progress depends on its cultivation. Sometimes it is exercised at its best, and to the greatest social benefit, in private undertakings, and sometimes in such group formations as those noticed above.

The mistake of identifying monetary actuation with personal initiative lies at the root of the error I have been trying to expose. Initiative is an inherent power of human nature which can act spontaneously or in response to an outside stimulus. In the social system it is the motive force. The one-sided "economic-incentive" theory was sometimes advanced to account for its operation in business matters. But nobody who had pondered over the matter could suppose for a moment that the thought of what paid one best was the primary fact and strenuous application merely the product or an expression of it. And unfortunately the confusion—which still survives, though less vigorously—bred other confusions which obscured the social problem. It was assumed by not a few that the thorough-going individualist accepted the false doctrine in question in its entirety. But this is not correct. An individualist is one who believes that the best is attained by allowing the maximum scope to freedom of action; but he may profoundly dissent from the view that creativeness is generated only by expectation of gain and only in the degree of the gain foreseen. Again it was assumed by not a few that the socialist wholly rejected the doctrine and was all for suppressing the motive of recompense. This, however, is not so. The thorough-going socialist believes that the community functions most perfectly under a good deal of State direction, with design imposed from the top in place of the pattern made by the interplay of unregulated competitive activities; but he may hold, nevertheless, that the initiative required for the most efficient working of the economic system can only be ensured by the scientific utilisation of adequate rewards. I am not concerned here to argue the issue as between those with individualistic leanings and those with socialistic leanings, but only to point out that clear thinking is called for unless the controversy is to prove futile. What we have in hand now is an analysis of the forces at play in the community in its economic aspects. The moral question, how people ought to be guided in their actions, is something over and above this.

Half the distrust of "big business" or any kind of "combination" was rooted, I imagine, in the fear that monopoly must be the end of it and the exploitation of the consumer. Competition came to be regarded as the indispensable preventive. Consequently many who were fully alive to the wastefulness of thorough-going competition in many circumstances were fully prepared with their eyes open to preserve it intact—apart from very exceptional cases—rather than to run the risk of having to submit to the extortion and limitations of freedom which, in their view, monopoly would usually entail. But why assume such a terrible dilemma! There are no signs as yet that combination is absorbing the field of economic endeavour, and there is no sign as yet that the community taken as a whole is suffering from such amalgamations or other groupings as we have—though the existence of regrettable abuses must be allowed. Besides, there is a third course. Big business has its merits under certain conditions in eliminating effort that is wasteful from the public point of view, as I have already indicated, and there seems no reason why in the future, with greater knowledge of the problem and the development of public control, it should not be possible to suppress its anti-social menaces without sacrificing its usefulness. It is all a question of the balance of advantage in each instance, having regard to the powers that are available. The amputation of a limb is not always the best for the body as a whole.

It is quite a mistake to suppose that business men and workmen are fundamentally different in their psychologies. They are not fundamentally different, and could not be, but are, on the contrary, fundamentally alike. It is because they are so much alike that they can quarrel so bitterly; and afterwards make up the quarrel so quickly. They merge into one another; and some members of the one class come out of the other. It cannot be disavowed, of course, that a basic psychology may get, and does to some extent get, overlaid by occupational and class sentiments. This is another question; but it makes it the more appropriate to examine separately the motivation of the two broadly distinguished classes. We may turn, then, from the controlling to the other side; and after doing so we shall, I think, find ourselves even more sceptical about the dictatorship of the "economic incentive." Much that has been said above of the employer holds also of the employee.

Chance, opportunity and environment play the dominant part in determining a person's calling, but otherwise a young man usually becomes a mechanic, say, instead of a market-gardener,

not to make more money, but because he is a born mechanic, so to speak; or he chooses to be a market-gardener because his taste lies in that direction, though he may make less. In short, calculations of relative lucrativeness only appeal normally within a limited range of more or less equally attractive openings. The personal equation, given partly by nature and partly by circumstances, is the governing factor. Children begin to talk, not because they see the advantage of talking, or are persuaded to do so, but because they must talk—as their distracted parents know full well. It is their instinct so to do. And some start drawing, not because they have been told that artists may make a lot of money, but because they cannot resist their inclination to draw. The young mechanic is the child grown up, with the same nature, only in his case, as reasoning plays a larger part, prospective earnings do become an important consideration. But always, with everybody, the seemingly sordid considerations reflect a mixture of motives and anticipated effects. That there are grasping workpeople, as there are grasping employers, nobody would dispute for a moment, but the discriminating observer will refuse to believe that greed is their salient characteristic, though, like other people, they want to have enough to live on in reasonable comfort. Also they want a "fair share." What should be regarded as a "fair share" is another story, and too long a one for the tail-end of this article.

SYDNEY CHAPMAN

Ware.

WAR-TIME CHANGES IN THE ORGANISATION OF TWO GROUPS OF EASTERN COUNTIES FARMS

THE pattern of agriculture in any area is the result of the combined judgment of its farmers as to the best method of utilising available resources, and, as farmers are continually trying to find a balance between their natural and their economic environment, the pattern is continually changing.

Normally this adjustment to changing levels of prices and costs is relatively slow. Even during a violent depression the farmer tends to wait for improved prices, and does not easily abandon accustomed practice. Moreover, if and when he decides to do so, the rate at which alterations can be effected is influenced by the long-term nature of the agricultural process. A general transition, for example, from wheat-growing to milk production, from tillage to grassland, cannot be accomplished easily. Cowsheds must be erected, pastures established, dairy-stock selected and bred, and several years must elapse before the change in intention is translated to a substantial increase in the dairy herd. Shifts from pasture to tillage, however, occur more rapidly, particularly when agriculture is being forcibly adapted to war-time needs. In this investigation it is proposed to examine the changes, both physical and monetary, which have occurred in two groups of farms in the Eastern Counties between 1938 and 1943, and, by recalculating income, output and expenditure on the basis of 1938 prices and costs, to estimate the capacity for survival of the 1943 form of production in the event of a return to the price and cost conditions of 1938. Stated simply, the problem is to ascertain whether the 1943 organisation would have paid the farmer better at 1938 prices and costs than the organisation actually followed in that year.

The farms concerned are situated on the central Norfolk loams and the south Essex London clays, and financial and other data are available for each of the six years 1938–43. There are twenty-five farms in each group, and the sample is identical throughout the period. The price and cost indices used in calculating at 1938 levels income and expenditure during the war years are derived as far as possible from the actual prices and costs on the farms during the years in question. In the case of livestock, however, the weights of stock sold were not available, and here prices were adjusted by using the official harvest year index-

numbers for fat and store stock. In this connection it should be noted that the financial data throughout refer to the harvest year. This means, for example, that for 1938 crop receipts refer to crops harvested in 1938 and for the most part sold at the 1938–39 harvest year prices, while receipts for livestock and livestock products are those received during the harvest year 1937–38. The official price indices for certain individual agricultural commodities for the harvest years 1933–34 to 1938–39 are given in Table I.

TABLE I

Index Numbers and Prices of Individual Agricultural Products for the Harvest Years 1933–34 *to* 1938–39.

(Base 1927–28 to 1929–30 = 100)

	1933–34.	1934–35.	1935–36.	1936–37.	1937–38.	1938–39.
Wheat	49	51	63	93	86	47
Barley	91	84	83	95	120	77
Oats	68	77	70	90	96	71
Potatoes	73	98	136	165	116	91
Sugar-beet	74	76	72	74	78	86
Fruit	88	114	97	95	127	103
Vegetable	94	83	104	83	97	90
Wheat (incl. sub.)	97	89	93	93	102	102
Milk	89	85	86	90	102	—
Milk (incl. sub.)	90	88	88	91	—	—
Eggs	69	70	77	80	87	—
Poultry	80	79	79	79	86	—
Fat cattle	75	70	71	77	85	—
Fat cattle (incl. sub.)	—	80	82	87	96	—
Fat sheep	76	80	76	88	76	—
Fat pigs (baconer)	76	72	72	80	78	—

It will be seen that during the harvest year 1938–39, when the crops of the 1938 harvest were being sold, a sharp fall occurred in the general level of crop prices, and particularly in the world price of wheat. In consequence, the amount of subsidy which had to be paid on the 1938 wheat crop was substantially higher than in the 1937. The use of 1938 as the base year in the present enquiry, therefore, probably tends to exaggerate the amount of subsidy which would normally be required to support the 1938 wheat acreage. In 1938 there were no subsidy payments on milk.

General Description of Areas

The districts concerned provided before the war a striking contrast in soil and in farm organisation. The central Norfolk loams lie to the west and south-west of Norwich, and cover some 400,000 acres. The soil is a medium loam with good natural

drainage, and capable of growing a variety of crops. Farms and fields are small, the average size in the present sample being 140 acres. Before the war just over two-thirds (68·5%) of the farmed land was under the plough. Cereals, of which barley was the most important, occupied approximately 38% of the area, fodder crops nearly 10%, sugar-beet between 7% and 8% and clover and seeds between 13% and 14%. Together, wheat, barley and sugar-beet accounted for 41% of the cash income. The district was heavily stocked and the acreage in fodder crops high for the Eastern Counties. After the 1914–18 war there was a considerable increase in dairying and in 1938 just over a fifth of the gross income was derived from sales of milk, a large part of which went to the London market. Sales of horned stock, partly fat cattle and partly by-products from the dairy industry, were little less than sales of milk. Pigs were also important. The area therefore produced a fairly wide range of agricultural crops and livestock on a system of mixed arable farming.

The south Essex London clay extends to approximately 200,000 acres, and stretches from Epping towards Southend. It is separated from the coast on the east and from the Thames estuary on the south by a strip of alluvials, gravels, and in the Southend district by brick earth. The soil is stiff, intractable clay, of which before the war probably as much as 20% required draining. Farms are larger than in central Norfolk, the average size in the sample being 190 acres. Before the war the area was the principal grazing district in the Eastern Counties, roughly three-quarters (71% in 1938) of the farmed land being under permanent pasture. Crop sales, of which over half were from wheat, were of little importance, amounting in 1938 to less than 20% of the gross income. Small amounts of sugar-beet, potatoes and market-garden crops were grown, but barley—an important source of income in central Norfolk—represented less than 1% of gross income. The area (with over fifteen dairy cows per 100 acres) was the principal dairying district in the Eastern Counties. It also was the most densely stocked and carried twenty-four livestock units per 100 acres, compared with 18·8 livestock units in central Norfolk. Receipts from livestock and livestock products accounted for over 80% of gross receipts, dairy produce alone accounting for 55%. All milk was sold liquid. 14% of gross income was derived from horned stock (mainly by-products of the dairy industry), between 5% and 6% from poultry and eggs and just over 4% from pigs.

The average farm income, the subsidies included in farm in-

come, and farm income less subsidies from 1931 to 1938 (1934 excepted) is given in Table II in £ per farm, and refers to an average of twenty-five farms in each year.

TABLE II

Farm Income and Subsidies in Various Years.

(£ per farm)

	Central Norfolk.			South Essex.		
	Farm income.	Subsidies included in farm income.	Farm income less subsidies.	Farm income.	Subsidies included in farm income.	Farm income less subsidies.
	(*a*) £	(*b*) £	(*c*) £	(*a*) £	(*b*) £	(*c*) £
1931	−34	—	−34	218	—	218
1932	− 4	50	−54	173	21	152
1933	114	78	36	178	46	132
1935	210	75	145	262	39	223
1936	163	28	135	291	12	279
1937	189	32	157	198	12	186
1938	167	134	33	148	59	89

Includes subsidies on cereals and fat cattle, but not on sugar-beet.

It will be seen that between 1931 and 1938 farming in south Essex was generally more profitable than in central Norfolk, and that the difference in favour of the former district is even more striking if subsidies are deducted from both groups.

At the outbreak of war, therefore, central Norfolk and south Essex provided a striking contrast in farm organisation. Both were producing substantial quantities of milk. But whereas in central Norfolk milk was mainly a product of arable farming, in south Essex it was produced by a combination of grassland and purchased feeding-stuffs. In fact it might be said that central Norfolk in 1938 provided the pattern towards which British agriculture was to move during the war years, while in south Essex drastic changes were necessary to get agricultural production on a war footing.

War-Time Changes

The distribution of arable land, cereals, fallow crops and pasture per 100 acres of agricultural land in the sample from 1938 to 1943 is given in Table III.

In central Norfolk little change in the broad distribution of cropping occurred between 1938 and 1943. Arable area as a percentage of total crops and grass rose from 68·5% to 71·1%,

the increase being absorbed in the production of cereals. In south Essex, on the other hand, the arable area doubled, rising from 26·4% to 54·1% of crops and grass. The most noteworthy increase in acreage was that of wheat, which rose from 10·3% of crops and grass in 1939 to 23·2% in 1943, while the cereal area as a whole rose from 16·5% to 32·1%. The position is given in greater detail in Table IV, which contrasts the distribution of crops per 100 acres in both districts in 1938 and in 1943.

TABLE III

The Distribution of Arable Land, Cereals, Fallow Crops and Pasture on Twenty-five Identical Farms in (a) *central Norfolk and* (b) *south Essex.*

(Per 100 acres)

	Central Norfolk.				South Essex.			
	Arable.	Cereals.	Fallow crops.	Pasture and waste.	Arable.	Cereals.	Fallow crops.	Pasture and waste.
	acres	acres	acres	acres	acres	acres	acres	acres
1938	68·5	36·7	18·1	31·5	26·4	16·6	6·1	73·6
1939	68·1	37·6	17·3	31·9	28·0	16·6	6·1	72·0
1940	69·7	39·1	16 9	30·3	32·7	20·9	6·7	67·3
1941	69·7	37·7	18·4	30·3	43·8	28·3	9·6	56·2
1942	70·3	37·1	18·0	29·7	49·5	27·9	14·5	50·5
1943	71·1	39 4	17·1	28·9	54·1	33·8	12·2	45·9

Tables V and VI give the distribution of the actual gross income in £ and percentage[1] in both districts in each year. Tables VII and VIII give the gross income in £ and percentage calculated throughout at 1938 prices. In the latter tables, therefore, the differences between years indicate the physical changes which have occurred in the sale of individual commodities.

Dealing first with actual incomes from Table V, it will be seen that between 1938 and 1943 gross income per 100 acres of crops and grass in central Norfolk increased from £878 to £1,540. Throughout the period the proportion of gross income derived from stock fell from 55·8% to 42·7%, while gross income from crops rose from 45·4% to 56·5%. Among individual crops the most striking feature was the increased proportion of income derived from barley, which rose from 16·7% in 1938 to 35·1% in 1942, and fell back to 30·4% in 1943. This increase was due to the disproportionate rise in barley prices, which had risen by 249

[1] Gross income represents farm sales plus or minus changes in valuation. Gross output which will be met later represents gross income less purchases of livestock.

points (1938 = 100) in 1942 and by 182 points in 1943, and compares with a rise of 66 points and 85 points in the case of wheat. In south Essex gross income per 100 acres rose from £941 in 1938 to £1,664 in 1943. In this case the change in the distribution of income was much more striking. In 1943 45·5% of gross income was derived from crops and 50·6% from stock, compared with 19·6% from crops and 80·1% from stock in 1938. The proportion of income derived from wheat rose from 11·4% to 26%, while the proportion from milk fell from 53·3% to 33·6%.

TABLE IV

Distribution of Cropping in 1938 *and* 1943 *on Twenty-five Identical Farms in* (a) *central Norfolk and* (b) *south Essex.*

(Per 100 acres)

	Central Norfolk.		South Essex.	
	1938.	1943.	1938.	1943.
	acres	acres	acres	acres
Wheat	13·2	13·4	10·3	23·2
Barley	18·3	19·4	1·2	2·7
Oats	4·8	5·9	5·1	6·2
Beans and peas	0·6	1·2	1 5	3·2
Mixed corn	0 4	0·2	—	1·7
Fodder roots	8·7	8·4	0·9	1·5
Other green crops	1·0	1·6	0·6	0·6
Potatoes	—	—	0·9	3·1
Sugar-beet	6·4	5·1	0·3	1·0
Bare fallow	1·3	0·1	1·2	1·3
Market garden—seeds and fruits	0·1	0·6	0·7	1·5
Clover and seeds	13·7	14·7	3·7	8·1
Total arable	68·5	71·1	26·4	54·1
Permanent pasture	28 5	23·9	71·0	43·8
Rough grazing	1·3	2·6	1·3	0·4
Woods and waste	1·7	2 4	1·3	1·7
Total area	100·0	100·0	100·0	100·0

It is, however, Tables VII and VIII which provide the most interesting contrast. Valued at 1938 prices, the gross income in central Norfolk per 100 acres was £817 in 1943, compared with £878 in 1938—*i.e.*, if the system of farming practised in 1943 in central Norfolk had been in operation at the 1938 level of prices the gross income in the area would have been less than it actually was in 1938. Here again there is an increase in the proportion of income derived from crops with the concomitant reduction in income from livestock. In physical terms milk sales increased by roughly 12%, but sales from other cattle were halved, while pigs sold were less than a quarter of the 1939 figures. The amount

TABLE V

Gross Income (£) per 100 Acres for the Six Years 1938–43 in an Identical Sample of Twenty-five Farms in central Norfolk and in south Essex.

	Central Norfolk.						South Essex.					
	1938.	1939.	1940.	1941.	1942.	1943.	1938.	1939.	1940.	1941.	1942.	1943.
	£	£	£	£	£	£	£	£	£	£	£	£
Milk, wholesale	130	141	162	203	255	229	502	478	507	504	554	559
,, retail	57	57	68	100	117	120	19	31	29	45	41	26
,, manufactured	14	10	11	8	6	6	—	—	—	—	—	—
Cows and heifers	12	29	36	59	64	61	53	56	107	109	107	108
Other cattle	173	128	212	211	191	105	78	135	101	71	106	82
Sheep	33	39	44	69	46	43	15	40	31	26	24	16
Pigs	36	46	54	37	13	16	39	53	67	33	20	8
Horses	−5	11	9	30	30	14	−4	15	5	12	13	7
Poultry	16	18	21	37	24	32	8	11	14	4	12	3
Eggs	22	16	26	28	30	30	42	33	51	55	39	29
Wool	1	1	2	2	2	2	1	2	3	3	2	2
Total income from stock	489	496	645	784	778	658	753	854	915	862	918	840
Wheat	139	128	112	103	104	209	107	83	82	141	255	431
Barley	147	158	306	332	633	469	8	17	31	56	84	72
Oats	13	1	11	8	13	4	16	7	33	25	18	—
Beans	—	—	—	2	—	2	3	12	—	10	7	10
Field peas	—	—	2	—	6	—	—	—	1	—	5	—
Mixed corn	—	—	—	—	—	—	—	—	—	2	—	4
Potatoes	—	—	—	—	—	—	23	28	43	92	139	118
Sugar-beet	98	104	115	147	188	181	4	6	14	16	32	32
Market-garden crops	2	7	9	6	29	5	9	19	17	28	62	60
Clover hay	—	—	—	—	—	—	—	12	10	11	19	19
Meadow hay	—	—	—	—	—	—	9	28	6	9	3	1
Straw	—	—	1	—	—	—	6	9	8	14	16	12
Fodder crop adjustment	−20	+26	−13	−3	+38	−1	−15	+26	+4	+56	−4	+15
Total income from crop	379	424	543	595	1,011	869	170	247	249	460	636	774
Miscellaneous sales	10	9	10	9	9	8	18	78	20	23	30	38
Ploughing grant	—	—	1	1	1	1	—	7	10	15	9	9
Drainage grant	—	—	—	1	3	4	—	—	1	6	5	3
Total income from miscellaneous sales	10	9	11	11	13	13	18	85	31	44	44	50
Total gross income	878	930	1,199	1,390	1,802	1,540	941	1,126	1,195	1,366	1,598	1,664

TABLE VI

Percentage of Gross Income per 100 Acres Derived from Each Commodity in an Identical Sample of Twenty-five Farms in central Norfolk and south Essex in each of the Six Years 1938–43.

	Central Norfolk.						South Essex.					
	1938.	1939.	1940.	1941.	1942.	1943.	1938.	1939.	1940.	1941.	1942.	1943.
	%	%	%	%	%	%	%	%	%	%	%	%
Milk, wholesale	14·8	15·2	13·5	14·6	14·2	14·9	53 3	42·5	42·4	36·9	34·7	33·6
,, retail	6·5	6·1	5·7	7·1	6 5	7·8	2·0	2·7	2·4	3·3	2·6	1·6
,, manufactured	1·6	1·1	0·9	0·6	0·3	0·4	—	—	—	—	—	—
Cows and heifers	1·4	3·1	3·0	4·2	3·6	4·0	5·6	5·0	9·0	8·0	6·7	6·5
Other cattle	19·7	13·8	17·7	15·2	10·6	6·8	8·3	12·0	8·4	5·2	6·6	5·0
Sheep	3 8	4·2	3·7	5·0	2·6	2·8	1·6	3·5	2·6	1·9	1·5	1·0
Pigs	4·1	4·9	4·5	2·7	0·7	1·0	4·1	4·7	5·6	2·4	1·3	0·5
Horses	—0·5	1·2	0·8	2·2	1·7	0·9	—0·4	1·3	0·4	0·9	0·8	0·4
Poultry	1·8	1·9	1·8	2·7	1·3	2·1	0·8	1·0	1·2	0·3	0·8	0·2
Eggs	2·5	1·7	2·2	2·0	1·7	1·9	4·7	2·9	4·2	4·0	2·4	1·7
Wool	0·1	0·1	0·2	0·1	0·1	0·1	0·1	0·2	0·3	0·2	0·1	0·1
Percentage of income from stock	55·8	53·3	54·0	56·4	43·3	42·7	80·1	75·8	76·5	63·1	57·5	50·6
Wheat	15·8	13·8	9·3	7·5	5·8	13·6	11·4	7·4	6·9	10·3	16·0	26·0
Barley	16·7	17·0	25·5	23·9	35·1	30·4	0·8	1·5	2·6	4·1	5·2	4·3
Oats	1 5	0·1	0·9	0·7	0·7	0·3	1·7	0·6	2·8	1·8	1·1	—
Beans	—	—	—	0·1	—	0·1	0·3	1·1	—	0·7	0·4	0·6
Field peas	—	—	0·2	—	0·3	—	—	—	0·1	—	0·3	—
Mixed corn	—	—	—	—	—	—	—	—	—	0·2	—	0·2
Potatoes	—	—	—	—	—	—	2·4	2·5	3·6	6·7	8·7	7·1
Sugar-beet	11·2	11·2	9·6	10·6	10·4	11·8	0·4	0·5	1·2	1·2	2·0	1·9
Market-garden crops	0·2	0·7	0·8	0·4	1·6	0·3	1·0	1·7	1·4	2·0	3·9	3·6
Clover hay	—	—	—	—	—	—	—	1·1	0·8	0·8	1·2	1·1
Meadow hay	—	—	—	—	—	—	1·0	2·5	0·5	0·7	0·2	—
Straw	—	—	—	—	—	—	0·6	0·8	0·7	1·0	1·0	0·7
Fodder crops adjustment	—2·3	—	—1·1	—0·2	+2·1	—	—1·6	+2·3	+0·3	+4·1	—0·3	+0·9
Percentage of income from crops	43·1	45·6	45·2	43·0	56·0	56·5	18·0	22·0	20·9	33·6	39·7	46·4
Miscellaneous sales	1·1	1·0	0·8	0·6	0·5	0·5	1·9	1·6	1·7	1·7	1·9	2·3
Ploughing grant	—	0·1	—	—	—	—	—	0·6	0·8	1·1	0·6	0·5
Drainage grant	—	—	—	—	0·2	0·3	—	—	0·1	0·5	0·3	0·2
Percentage income from miscellaneous grants	1·1	1·1	0·8	0·6	0·7	0·8	1·9	2·2	2·6	3·3	2·8	3·0
Total gross income	100	100	100	100	100	100	100	100	100	100	100	100

TABLE VII

Gross Income (£) per 100 Acres Adjusted to 1938 Prices for the Six Years 1938–43 in an Identical Sample of Twenty-five Farms in central Norfolk and in south Essex.

(1938 = 100)

	Central Norfolk.						South Essex.					
	1938.	1939.	1940.	1941	1942.	1943.	1938.	1939.	1940.	1941.	1942.	1943.
	£	£	£	£	£	£	£	£	£	£	£	£
Milk, wholesale	130	141	138	160	156	136	502	472	430	356	345	340
,, retail	57	59	57	71	73	84	19	23	22	30	25	16
,, manufactured	14	9	9	7	5	5	—	—	—	—	—	—
Cows and heifers	12	29	35	49	49	44	53	54	91	83	74	73
Other cattle	173	148	187	176	144	88	78	121	83	53	75	57
Sheep	33	39	39	45	25	23	15	37	25	18	13	8
Pigs	36	41	36	24	10	7	39	55	53	28	11	3
Horses	−5	11	9	28	22	10	−4	12	4	10	8	4
Poultry	16	18	19	23	10	11	8	10	10	2	5	1
Eggs	22	17	20	16	15	15	42	35	39	31	19	15
Wool	1	1	1	1	1	1	1	2	2	2	1	1
Total income from stock	489	513	550	600	510	424	753	824	759	613	576	518
Wheat	139	126	75	68	63	113	107	73	54	93	151	239
Barley	147	145	144	113	181	166	8	16	19	23	25	25
Oats	13	1	8	5	8	3	16	9	21	16	11	—
Beans	—	—	—	1	—	1	3	11	—	4	2	3
Field peas	—	—	1	—	1	—	—	—	1	—	2	—
Mixed corn	—	—	—	—	—	—	—	—	—	1	—	3
Potatoes	—	—	—	—	—	—	23	24	29	48	84	66
Sugar-beet	98	99	86	105	103	99	4	5	10	10	17	16
Market-garden crops	2	8	7	4	14	2	9	20	13	17	30	28
Clover hay	—	—	—	—	—	—	—	9	7	5	8	8
Meadow hay	—	—	—	—	—	—	9	20	4	3	1	—
Straw	—	—	1	—	—	—	6	9	8	14	16	8
Fodder crop adjustment	−20	+22	−13	—	+29	−1	−15	+22	+3	+27	+3	—
Total income from crops	379	401	309	296	399	383	170	218	169	261	350	396
Miscellaneous sales	10	9	8	6	5	5	18	17	16	16	17	22
Ploughing grant	—	1	1	1	1	1	—	7	10	15	9	9
Drainage grant	—	—	—	1	3	4	—	—	1	6	5	3
Total income from miscellaneous sales	10	10	9	8	9	10	18	24	37	37	31	34
Total gross income	878	924	868	904	918	817	941	1,066	955	911	957	948

TABLE VIII

Percentage of Gross Income per 100 Acres Adjusted to 1938 Prices Derived from each Commodity in an Identical Sample of Twenty-five Farms in central Norfolk and south Essex in each of the Six Years 1938–43.

	Central Norfolk.						South Essex.					
	1938.	1939.	1940.	1941.	1942.	1943.	1938.	1939.	1940.	1941.	1942.	1943.
	%	%	%	%	%	%	%	%	%	%	%	%
Milk, wholesale	14·8	15·2	15·9	17·7	17·0	16·7	53·3	44·3	45·0	39·0	36·0	35·9
,, retail	6·5	6·4	6·7	7·9	8·0	10·3	2·0	2·4	2·3	3·3	2·6	1·7
,, manufactured	1·6	1·0	1·0	0·8	0 5	0·6	—	—	—	—	—	—
Cows and heifers	1·4	3·1	4·1	5·4	5·3	5·4	5·6	5·1	9·5	9·1	7·8	7·7
Other cattle	19·7	16·0	21·5	19·7	15·7	10·8	8·3	11·5	8·7	5·8	7·8	6·0
Sheep	3·8	4·3	4·5	5·0	2·7	2·8	1·6	3·5	2·6	2·0	1·4	0·9
Pigs	4·1	4·4	4·2	2·6	1·1	0·9	4·1	5·1	5·6	3·1	1·2	0·3
Horses	−0·5	1·2	1·0	3·0	2·4	1·2	−0·4	1·1	0·4	1·1	0·8	0·4
Poultry	1·8	2 0	2·2	2·5	1·1	1·3	0·9	0·9	1·0	0·2	0·5	0·1
Eggs	2·5	1·8	2·3	1·7	1·6	1·8	4·5	3·3	4·1	3·4	2·0	1·6
Wool	0·1	0·1	0·1	0·1	0·1	0·1	0·1	0·2	0·2	0·2	0·1	0·1
Percentage of income from stock	55·8	55·5	63 5	66·4	55·5	51·9	80·0	77·4	79·4	67·2	60·2	54·7
Wheat	15·8	13·6	8·6	7·5	6·9	13·9	11·4	6·8	5·7	10·2	15·8	25·2
Barley	16·7	15·7	16·6	12·5	19·7	20·3	0·9	1·5	2·0	2·5	2·6	2·6
Oats	1·5	0·1	0·9	0·6	0·9	0·4	1·7	0·8	2·2	1·8	1·2	—
Beans	—	—	—	0·1	—	0·1	0·3	1·0	—	0·4	0·2	0·3
Field peas	—	—	0·1	—	0·1	—	—	—	0·1	—	0·2	—
Mixed corn	—	—	—	—	—	—	—	—	—	0·1	—	0·3
Potatoes	—	—	—	—	—	—	2·4	2·2	3·0	5·3	8·8	7·0
Sugar-beet	11·2	10·7	9·9	11·6	11·2	12·1	0·4	0·5	1·0	1·1	1·8	1·7
Market-garden crops	0·2	0·9	0·8	0·4	1·5	0·2	1·0	1·9	1·4	1·9	3·1	3·0
Clover hay	—	—	—	—	—	—	—	0·8	0·7	0·6	0·8	0·9
Meadow hay	—	—	—	—	—	—	1·0	1·9	0·4	0·3	0·1	—
Straw	—	—	—	—	—	—	0·6	0·8	0·8	1·5	1·7	0·8
Fodder crop adjustment	−2·3	+2·4	−1·5	—	+3·2	−0·1	−1·6	+2·1	+0·3	+3·0	+0·3	—
Percentage of income from crops	43·1	43·4	35·5	32·7	43·5	46·9	18·1	20·3	17·6	28·7	36·6	41·8
Miscellaneous sales	1·1	1·0	0·9	0·7	0·5	0·6	1·9	1·6	1·9	1·8	1·8	2·3
Ploughing grant	—	0·1	0·1	0·1	0·1	0·1	—	0·7	1·0	1·6	0·9	0·9
Drainage grant	—	—	—	0·1	0·4	0·5	—	—	0·1	0·7	0·5	0·3
Percentage from miscellaneous and grants	1·1	1·1	1·0	0·9	1·0	1·2	1·9	2·3	3·0	4·1	3·2	3·5
Total gross income	100	100	100	100	100	100	100	100	100	100	100	100

of wheat sold was also less than in 1939, but that of barley increased by 11%. Broadly, the reduction in total gross income is due to the loss of income from livestock, as the total income from crops (£379 in 1938 and £384 in 1943) is roughly the same in both years.

In south Essex gross income adjusted to 1938 prices was £948 in 1943, compared with £941 in 1938. But, as might be expected from the cropping data, a substantial redistribution of gross income occurred in the district. From 1939 onwards there was a steady reduction in the proportion of income derived from livestock and livestock products—£753 in 1938, £824 in 1939, and then steadily down to £518 in 1943. The main decline took place in milk, the adjusted value of which fell from £521 in 1938 to £356 in 1943—*i.e.*, by 31%. By contrast, income from crops increased from £185 in 1938 to £396 in 1943—*i.e.*, by 114%—while the proportion of income derived from crops rose from 18·1% to 41·8% in the period. In particular crops, physical sales were more than doubled in the case of wheat, and quadrupled in the case of barley; the value of market-garden crops sold increased threefold, while that of sugar-beet and potatoes increased two and a half times and four times respectively. In terms of value at 1938 prices, therefore, gross incomes in central Norfolk fell by 6·9%, and in south Essex rose by 0·75%.

Dealing next with gross expenditure, Tables IX and X give the actual and percentage distribution of expenses in each year between 1938 and 1943, while Tables XI and XII give the same figures adjusted to 1938 levels of cost. It will be seen (Table IX) that in central Norfolk expenditure per 100 acres rose from £790 in 1938 to £1,062 in 1943, an increase of 13·4%. In south Essex similar figures were £829 and £1,203 respectively—a rise of 14·4%.

In both groups there was a striking increase in the proportion of expenditure represented by labour, which between 1938 and 1943 increased from 34·9% to 43·2% in central Norfolk and from 25·9% to 33·0% in south Essex.

Over the same period expenditure on feeding-stuffs as a percentage of total expenditure fell from 13·7% to 6·2% in the first district, and from 26·6% to 9·4% in the second.

If, however, we turn to Table XI, we find that when costs are adjusted to 1938 levels the actual amount of labour being used in central Norfolk in 1943 was rather less than 1938: while even in south Essex, in spite of very great changes in farm organisation, the amount of labour required was not significantly higher. Nor can the small rate of increase in the latter district

TABLE IX

Gross Expenditure per 100 Acres for the Six Years 1938–43 in an Identical Sample of Twenty-five Farms in central Norfolk and in south Essex.

	Central Norfolk.						South Essex.					
	1938.	1939.	1940.	1941.	1942.	1943.	1938.	1939.	1940.	1941.	1942.	1943.
	£	£	£	£	£	£	£	£	£	£	£	£
Labour	276	271	310	374	451	460	215	223	237	293	357	398
Fertilisers	28	24	28	40	55	62	27	30	36	55	72	76
Foods	108	109	149	107	98	67	221	219	256	211	117	113
Seeds	26	24	36	37	56	54	19	20	37	55	88	114
Livestock	107	80	125	134	129	81	114	124	110	114	133	116
Rent	101	101	102	102	104	104	96	96	98	88	88	91
Implements	36	31	46	52	54	56	32	36	46	66	79	82
Fuel	20	20	22	27	36	41	25	27	33	43	57	62
Tackle hire	17	19	28	26	32	38	19	21	31	48	58	71
Milk transport	20	21	20	22	22	22	20	18	19	15	16	16
Other transport	21	19	23	29	29	29	4	4	5	7	7	8
Miscellaneous	30	31	33	43	50	48	37	39	44	55	59	56
Total	790	750	922	993	1,116	1,062	829	857	952	1,050	1,131	1,203

Table X

Percentage Distribution of Gross Expenditure per 100 Acres for the Six Years 1938–43 in an Identical Sample of Twenty-five Farms in central Norfolk and in south Essex.

	Central Norfolk.						South Essex.					
	1938.	1939.	1940.	1941.	1942.	1943.	1938.	1939.	1940.	1941.	1942.	1943.
	%	%	%	%	%	%	%	%	%	%	%	%
Labour	34·9	36·2	33·6	37·7	40·4	43·2	25·9	26·0	24·9	27·9	31·6	33·0
Fertilisers	3·5	3·2	3·0	4·0	4·9	5·8	3·3	3·5	3·8	5·2	6·4	6·3
Foods	13·7	14·5	16·2	10·8	8·8	6·2	26·6	25·5	26·9	20·0	10·3	9·4
Seeds	3·3	3·2	3·9	3·7	5·0	6·0	2·2	2·3	3·9	5·2	7·8	9·5
Livestock	13·5	10·7	13·5	13·5	11·6	7·5	13·7	14·4	11·6	10·9	11·8	9·6
Rent	12·8	13·5	11·1	10·3	9·3	9·8	11·5	11·2	10·3	8·4	7·8	7·6
Implements	4·6	4·1	5·0	5·2	4·8	5·1	3·9	4·2	4·8	6·3	7·0	6·8
Fuel	2·5	2·7	2·4	2·7	3·2	3·8	3·0	3·2	3·5	4·2	5·0	5·2
Tackle hire	2·2	2·5	3·0	2·6	2·9	3·4	2·4	2·5	3·2	4·6	5·1	5·9
Milk transport	2·5	2·8	2·2	2·2	2·0	2·0	2·4	2·1	2·0	1·4	1·4	1·3
Other transport	2·7	2·5	2·5	2·9	2·6	2·7	0·6	0·5	0·5	0·7	0·6	0·7
Miscellaneous	3·8	4·1	3·6	4·4	4·5	4·5	4·5	4·6	4·6	5·2	5·2	4·7
Total	100	100	100	100	100	100	100	100	100	100	100	100

TABLE XI

Gross Expenditure per 100 *Acres Adjusted to* 1938 *Prices for the Six Years* 1938–43 *in an Identical Sample of Twenty-five Farms in central Norfolk and in south Essex.*

	Central Norfolk.						South Essex.					
	1938.	1939.	1940.	1941.	1942.	1943.	1938.	1939.	1940.	1941.	1942.	1943.
	£	£	£	£	£	£	£	£	£	£	£	£
Labour	276	258	253	263	259	265	215	211	191	203	202	226
Fertilisers	28	24	20	27	37	42	27	30	25	37	49	51
Foods	108	125	128	85	77	53	221	252	220	167	92	89
Seeds	26	24	21	18	22	24	19	20	23	27	33	52
Livestock	107	85	110	108	93	58	114	117	94	86	92	78
Rent	101	101	101	101	101	101	96	96	96	96	96	96
Implements	36	31	38	36	34	32	32	36	38	46	49	47
Fuel	20	20	16	17	20	22	25	27	24	26	31	31
Tackle hire	17	18	23	18	18	22	19	20	22	33	33	41
Milk transport	20	21	21	20	24	20	20	19	18	14	15	14
Other transport	21	19	19	20	17	16	4	4	4	5	5	5
Miscellaneous	30	31	28	30	29	27	37	39	37	38	37	32
Total	790	757	778	743	731	682	829	871	792	778	734	762

TABLE XII

Percentage Distribution of Gross Expenditure per 100 *Acres Adjusted to* 1938 *Prices for the Six Years* 1938–43 *in an Identical Sample of Twenty-five Farms in central Norfolk and in south Essex.*

	Central Norfolk.						South Essex.					
	1938.	1939.	1940.	1941.	1942.	1943.	1938.	1939.	1940.	1941.	1942.	1943.
	%	%	%	%	%	%	%	%	%	%	%	%
Labour	34·9	34·1	32·4	35·3	35·4	38·9	25·9	24·3	24·1	26·1	27·5	29·6
Fertilisers	3·5	3·2	2·6	3·6	5·1	6·2	3·3	3·4	3·2	4·8	6·7	6·7
Foods	13·7	16·5	16·5	11·4	10·5	7·8	26·7	28·9	27·8	21·5	12·5	11·7
Seeds	3·3	3·2	2·7	2·4	3·0	3·5	2·3	2·3	2·9	3·5	4·5	6·8
Livestock	13·5	11·2	14·1	14·5	12·7	8·5	13·8	13·4	11·9	11·0	12·5	10·2
Rent	12 8	13·3	13·0	13·6	13·8	14·8	11·6	11·0	12·1	12·3	13·1	12·6
Implements	4·6	4·1	4·9	4·9	4·7	4·7	3·9	4·1	4·8	5·9	6·8	6·1
Fuel	2·5	2·6	2·1	2·3	2·7	3·2	3·0	3·1	3·0	3·3	4 2	4·2
Tackle hire	2·2	2·4	3·0	2·4	2·5	3·2	2·2	2·3	2·8	4·3	4·5	5·4
Milk transport	2·5	2·8	2·7	2·7	3·3	2·9	2·4	2·2	2·3	1·8	2·0	1·8
Other transport	2·7	2·5	2·4	2·7	2·3	2·3	0·5	0·5	0·5	0·6	0·7	0·7
Miscellaneous	3·8	4·1	3·6	4·0	4·0	4·0	4·4	4·5	4·6	4·9	5·0	4·2
Total	100	100	100	100	100	100	100	100	100	100	100	100

be explained by an increase in work done by contract. In the case of purchased foods the amount purchased in central Norfolk fell from £108 to £53, and in south Essex from £221 to £89. This decrease in the amount of purchased feeding-stuffs was accompanied by a reduction in livestock output, the significance of which will be discussed later. The increase in arable area in south Essex resulted in the purchase of twice the amount of fertilisers and nearly three times the amount of seeds. Purchases of livestock were substantially reduced in both districts.

Gross Output is defined as gross income adjusted for changes in valuation less purchases of livestock. Actual and adjusted Gross Outputs for both districts are given in Table XIII.

TABLE XIII

Actual and Adjusted Gross Output.

(Per 100 acres)

	Central Norfolk.		South Essex.	
	Actual.	Adjusted to 1938 prices.	Actual.	Adjusted to 1938 prices.
	£	£	£	£
1938	771	771	827	827
1939	850	839	1,002	949
1940	1,074	758	1,085	861
1941	1,256	796	1,252	825
1942	1,673	825	1,465	865
1943	1,459	759	1,548	870

It will be seen that in terms of cash values gross output in central Norfolk increased steadily from £771 in 1938 to £1,673 in 1942, and then fell to £1,459 in 1943, the fall in the latter year being due to the decline in barley prices. In south Essex, on the other hand, where the barley crop was of considerably less importance than wheat, the actual gross output rose steadily from £827 in 1938 to £1,548 in 1943. Measured at 1938 prices, however, gross output in central Norfolk during the war was less than the 1938 output in 1940 and 1943, and greater in 1939, 1941 and 1942. But in none of these years was the increase more than 9% above the 1938 figures. In south Essex gross output, calculated at 1938 prices, was higher than in 1938 in every year except 1941. As in central Norfolk, the greatest increase (14%) occurred in 1939.

We have seen that before the war both central Norfolk and south Essex, but particularly the latter district, used large

quantities of purchased feeding-stuffs. During the war these purchases have been greatly reduced, while a greater proportion of the war-time livestock output has been derived from home-grown foods. The relationship between livestock output, crop output and purchased foods (adjusted to 1938 prices) in both central Norfolk and south Essex is shown in Table XIV.

TABLE XIV

Relationship between Livestock, Crop Output and Purchased Feeding-Stuffs Valued at 1938 *Prices.*

(Per 100 acres)

	Central Norfolk.			South Essex.		
	Exp. on purchased foods.	Output from livestock.	Output from crops.	Exp. on purchased foods.	Output from livestock.	Output from crops.
	£	£	£	£	£	£
1938	108	382	379	221	639	170
1939	125	428	401	252	707	218
1940	128	440	309	220	665	169
1941	85	492	296	167	527	261
1942	77	417	399	92	484	350
1943	53	366	383	89	440	396

It will be seen that pre-war quantities of purchased feeding-stuffs were available in both districts until 1940, but that they fell steeply in 1941. In central Norfolk the output from livestock was greater than in 1938 in every year except 1943, while in south Essex it declined steadily over the period. Crop output in central Norfolk did not change greatly between the years, but in south Essex the 1943 output from crops was nearly two and a half times greater than in 1938. In this connection it is interesting to ascertain how far the loss of purchased feeds could have been made good if the increased home production of cereals had been fed to livestock. It will be seen that in central Norfolk expenditure in feeding-stuffs was £55 lower in 1943 than in 1938; crop sales rose by £4, while livestock output was only £16 lower. In this group of farms the livestock output has been well maintained, and the loss of purchased feeding-stuffs has been largely made good by better utilisation of available supplies and by increased production of fodder crops and concentrates on the farm. In the same way, examining the south Essex figures, £132 less feeding-stuffs were purchased in 1943 than in 1938. In this case, however, sales of crops increased by £226, while livestock output fell by £199. If therefore the increase in crops sold could have

been used for feeding livestock, the livestock output would probably have been maintained.

Changes in Labour Force and in Gross Output per Man

Gross output per man or per £100 spent on labour provides an index of labour efficiency. In central Norfolk and south Essex the number of men required per 100 acres has generally been less during the war than in 1938. This is perhaps not surprising in central Norfolk, where farm organisation has changed little during the war. But it is surprising in south Essex, where it has been possible to more than double the arable area (from 26·4% of crops and grass to 54·1%), and to double the acreage of both cereals and fallow crops using the labour released by a

TABLE XV

Actual and Adjusted Gross Output per Man.

	Central Norfolk.			South Essex.		
	Actual gross output per man.	Gross output per man adjusted to 1938 prices.	No. of man units	Actual gross output per man.	Gross output per man adjusted to 1938 prices.	No. of man units.
1938	222	222	3·47	308	308	2·68
1939	258	255	3·29	381	361	2·63
1940	331	234	3·24	448	356	2·42
1941	376	238	3 34	491	323	2·55
1942	507	250	3 30	581	343	2·52
1943	434	226	3 36	559	314	2·77

24% reduction in the number of livestock per 100 acres, and by the increased use of tractors, the number of which have risen from 10 to 30. It should be noted that although an increase in the amount of contract work has occurred in this area, the increase is roughly proportional to the increase in cereal area, and is due to an increase in the volume of grain to be threshed, and not to expenditure on cultivation. The number of men per 100 acres and the actual and adjusted gross output per man are given in Table XV.

Actual gross output per man has increased substantially in both districts, rising in central Norfolk from £222 in 1938 to £434 in 1943, and in south Essex from £308 to £559. When gross output per man is calculated at 1938 prices and costs, the result is much less spectacular. It would appear, therefore, that the great increase in actual output is the result of higher prices rather than of increased efficiency in labour organisation.

It must be noted, however, that the labour force in 1943 is not comparable with that of 1938. Many of the younger men are in the Services, and their place has been taken by prisoner labour, land girls and other men. Better organisation of labour may be masked by a deterioration in its quality.

Changes in Capital Requirement

Table XVI gives an estimate of farm capital in each year, together with its valuation on the basis of 1938 prices.

TABLE XVI

Farm Capital per 100 *Acres.*

	Central Norfolk.		South Essex.	
	Actual.	At 1938 prices.	Actual.	At 1938 prices.
	£	£	£	£
1938	1,151	1,151	893	893
1939	1,197	1,184	982	914
1940	1,415	993	1,214	955
1941	1,662	1,046	1,495	1,048
1942	2,147	1,126	1,723	1,100
1943	2,043	1,112	1,909	1,162

This estimate of farm capital is formed by the valuation of livestock, crops, implements and machinery. The livestock valuation represents the mean of the valuation at the beginning and end of the financial year. The implement and machinery valuation is the estimate of their value at the end of the financial year. These estimates assume the farm as a going concern, and are probably considerably below the replacement value of implements at the present time. Crop valuations represent the value of all crops grown on the farm during the current cereal year. Corn, sugar-beet, potatoes and other crops generally sold are valued on the basis of their yield and estimated market price, while young seeds, bare fallows, folding and other root crops have been valued at standard rate based on earlier cost investigations. It must, however, be emphasised that while the amount of capital invested in livestock and implements and machinery remains fairly constant throughout the year, there are marked seasonal variations in the amount invested in crops. The above method of calculating crop valuations shows the maximum valuation under this heading. Further, at the present time, when crops represent a large proportion of gross income, and are contributing the greater part of farm profits, these valuations

will contain a considerable element of profit. The very substantial apparent increase in farm capital therefore given in Table XVI exaggerates the increased need for working capital by the sitting tenant during the war years. In these circumstances a more accurate assessment of working capital is obtained by taking the difference between total expenditure and receipts from livestock and livestock products, plus the opening valuation for livestock and the closing valuation for implements and machinery. This formula rests on the assumption that weekly receipts from sales of livestock and livestock products are available throughout the year to meet current expenses, and that as

TABLE XVII

Actual Expenses, Receipts for Livestock, and Livestock and Implement Valuation in Each Year.

(£ per 100 acres)

	Central Norfolk.				South Essex.			
	Total expenses.	Receipt from livestock.	Current opening val.	Implement valuation.	Total expenses.	Receipt from livestock.	Current opening val.	Implement valuation.
	£	£	£	£	£	£	£	£
1938	790	489	413	160	829	753	471	170
1939	750	496	402	152	857	854	459	175
1940	922	654	423	154	952	915	538	196
1941	993	784	474	166	1,050	862	585	227
1942	1,116	778	559	171	1,131	918	534	258
1943	1,062	658	589	156	1,203	840	551	240

working capital the farmer must find the balance between total expenditure and receipts from livestock and livestock products, together with capital invested in livestock and implements. He will also require enough money to maintain himself and his family throughout the year, but the cost of living on a farm has risen little during the war, so that this sum may be assumed to be constant. Actual expenses, receipts from livestock, and the livestock and implement valuation in each year are given in Table XVII.

Table XVIII gives the break up of the new estimate of farm capital.

From Table XVIII it will be seen that on this basis the amount of Working Capital required in central Norfolk rose from £874 in 1938 to £1,149 in 1943, or by 31·5%, while in south Essex it rose from £717 to £1,154, or by 60·1%. As might be expected,

the increased demand for Working Capital was greatest in south Essex, where, as we have already seen, war-time needs required a much greater shift in the form of agricultural production than in central Norfolk. It will also be seen by reference to Table XVIII that the main increases in capital requirement coincided with the decline in the proportion of income derived from livestock and livestock products. Thus in central Norfolk, where receipts from livestock and livestock products were maintained until 1941, little additional capital was needed until 1942, when

TABLE XVIII

Estimate of Working Capital Required.

(£ per 100 acres)

	Central Norfolk.				South Essex.			
	Live-stock opening val.	Implement val.	Expenses—sales of livestock and livestock products.	Total capital.	Live-stock opening val.	Implement val.	Expenses—sales of livestock and livestock products.	Total capital.
	£	£	£	£	£	£	£	£
1938	413	160	301	874	471	170	76	717
1939	402	152	254	808	459	175	3	637
1940	423	154	268	854	538	196	37	771
1941	474	166	209	849	585	227	188	1,000
1942	559	171	338	1,068	534	258	213	1,005
1943	589	156	404	1,149	551	240	363	1,154

only 43·3% of total income was obtained from livestock, compared with 56·4% in 1938. In south Essex, on the other hand, a substantial decline in the proportion of income derived from livestock occurred in 1941—63·1%, compared with 76·5% in 1938. In the early years of the war, therefore, the industry was probably largely financed by the increased prices received for agricultural produce and by capital realised in disposing of pigs and poultry.

Farm Income

Farm income is the difference between gross income and gross charges, and is the amount available to the farmer to defray interest on loans and to remunerate him for his own labour and capital investment. The actual and adjusted farm incomes for each year in both districts are given in Table XIX.

It will be seen that in central Norfolk actual farm income rose steadily from £88 per 100 acres in 1938 to £686 in 1942, and then

fell to £478 in 1943—75% of the fall in the latter year being due to the reduced income from barley, which followed the reduction of the controlled prices from 140*s*. to 110*s*. a quarter. In south Essex farm income rose from £112 in 1938 to £467 in 1942, and, as barley was an unimportant crop, fell only slightly to £461 in 1943. It is evident, therefore, that at war-time levels of prices and costs the central Norfolk system of farming has been generally more profitable than that of south Essex. This is perhaps to be expected, as in the early years of the war prices were adjusted to favour the types of produce which central Norfolk was already growing.

The position is reversed, however, when we examine the margin between gross income and gross charges both recalculated

TABLE XIX

Farm Incomes.

(Actual and adjusted £ per 100 acres)

	Central Norfolk.		South Essex.	
	Actual Income.	Income at 1938 prices and costs.	Actual Income.	Income at 1938 prices and costs.
	£	£	£	£
1938	88	88	112	112
1939	180	167	269	195
1940	277	90	243	163
1941	397	161	316	133
1942	686	187	467	223
1943	478	135	461	186

at 1938 price levels. Then it will be seen that farm incomes in central Norfolk would have risen from £88 in 1938 to £187 in 1942 and then fallen to £135 in 1943, while in south Essex they would have risen from £112 in 1938 to £223 in 1942, and then fallen to £186 in 1943. In this case farm incomes in south Essex would have been higher than in central Norfolk for all years except 1941. But in comparing farm incomes, calculated at 1938 prices and costs, over the period 1938–43, it is interesting to consider separately the fraction of income derived in each year from the subsidy payments which entered into 1938 prices. This is shown in Table XX.

Column (2) gives the sum of the subsidies on wheat, barley and oats, and fat cattle, while column (3) includes in addition the subsidy on sugar-beet obtained by dividing the value of the beet subsidy and revenue abatement in 1938 by the total beet tonnage

and multiplying by the annual tonnage produced in the sample farms in each district.

The subsidies actually paid in 1938 on cereals and fat cattle per 100 acres of crops and grass amounted to £107 in central Norfolk and to £64 in south Essex. Including the sugar-beet subsidies, they were £167 and £67 respectively. This means that without the first group of subsidies the average farm income per 100 acres in central Norfolk in 1938 would have amounted to (88–107)—*i.e.*, £−19—and in south Essex to (112–64)—*i.e.*, £48—and without the second group to (88–167)—*i.e.*, £−84—and (112–67)—*i.e.*, £45. It is evident, therefore, that in 1938 central Norfolk farms were much more heavily subsidised than those in south Essex. It is also evident from Table XX that if the system of farming practised in the war years had operated in 1938 the dependence on subsidies of central Norfolk would have been slightly reduced, while those of south Essex would have substantially increased. In the latter district, for example, if the 1943 organisation had operated in 1938, subsidy payments per 100 acres (not including sugar-beet) would have been £139, compared with £64, and, including sugar-beet, £149, instead of £67. Further it is extremely probable that if the 1943 acreage of market-garden crops and potatoes had been grown in south Essex in

TABLE XX

Farm Incomes at 1938 *Prices and Costs with and without Subsidy Payments.*

(£ per 100 acres)

	Central Norfolk.					South Essex.				
	Adjusted farm income.	Subsidy Payments.		Adjusted farm income less subsidies included in		Adjusted farm income.	Subsidy Payments.		Adjusted farm income less subsidies included in	
		Not incl. S.B.	Incl. S.B.	Col. 2.	Col. 3.		Not incl. S.B.	Incl. S.B.	Col. 2.	Col. 3.
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
	£	£	£	£	£	£	£	£	£	£
1938	88	107	167	− 19	−84	112	64	67	+ 48	+ 45
1939	167	102	162	+ 65	+ 5	195	52	56	+143	+139
1940	90	79	131	+ 11	−41	163	44	60	+119	+103
1941	161	71	130	+ 90	+31	133	65	72	+ 68	+ 61
1942	187	76	139	+111	+48	233	96	107	+137	+126
1943	135	91	151	+ 44	−16	186	139	149	+ 50	+ 37

1938 they would have been unable to find a market at 1938 prices with a consequent reduction in incomes. In central Norfolk, on the other hand, the reorganisation of agricultural production towards milk would in 1938 have increased the stability of the farm organisation and reduced the dependence in the area on subsidised crops.

Social Output

This is the amount available to the three partners of the industry—to the landlord, the farmer and the labourer. It is therefore the sum of the gross rent, the farm income and wages (including family labour other than that of the occupier). It is a measure of considerable importance, and has been described as " a standard of judgment for the whole agricultural community for the amount of the net output determines the limit of possible incomes."

The composition of actual social output per 100 acres in both districts is shown in Table XXI.

TABLE XXI

Composition of Social Output in Both Districts.

(£ per 100 acres)

	Central Norfolk.				South Essex.			
	Farm income.	Rent.	Exp. in labour.	Net output.	Farm income.	Rent.	Exp. in labour.	Net output.
	£	£	£	£	£	£	£	£
1938	88	101	276	465	112	96	215	423
1939	180	101	271	552	269	96	223	588
1940	277	102	310	689	243	98	237	578
1941	397	102	374	873	316	88	293	697
1942	686	104	451	1,241	467	88	357	912
1943	478	104	460	1,041	461	91	398	950

Net output per 100 acres in central Norfolk rose from £465 in 1938 to £1,041 in 1943, while in south Essex it rose from £423 to £950. In both districts farm incomes increased four-fold, while expenditure in labour was less than doubled. Rent showed little change in both districts, the fall in south Essex being due to a reduction granted as a result of disturbance by one of the services.

The proportion of net output taken by each of the three partners in the industry is given in Table XXII.

It will be seen that in central Norfolk in 1938 farm income and

rent each absorbed roughly 20% of social output, and labour the remaining 60%, whereas in 1943 farm income and labour each absorbed approximately 45%, and rent the remaining 10%. The position in south Essex was roughly similar. It is evident

TABLE XXII

Percentage Distribution of Actual Net or Social Output between Profits, Labour and Rent.

	Central Norfolk.				South Essex.			
	Farm income.	Rent.	Exp. on labour.	Net output.	Farm income.	Rent.	Exp. on labour.	Net output.
	%	%	%		%	%	%	
1938	18·9	21·7	59·4	100	26·5	22·7	50·8	100
1939	32·7	18·3	49·0	100	45·7	16·3	38·0	100
1940	40·2	14·8	45·0	100	42·0	17·0	41·0	100
1941	45·5	11·7	42·8	100	45·3	12·6	42·0	100
1942	55·3	8·4	36·3	100	51·2	9·6	39·0	100
1943	45·9	10·0	44·1	100	48·5	9·6	41·9	100

from these figures that during the war the actual and relative position of the landlord has considerably deteriorated. In the central Norfolk area, for example, rent rose by less than 3% between 1938 and 1943. It should, however, be borne in mind

TABLE XXIII

Social Output Adjusted by 1938 *Prices and Subsidies.*

(£ per 100 acres)

	Central Norfolk.			South Essex.		
	Social output.	Subsidies, including sugar-beet.	Social output, less subsidy.	Social output.	Subsidies, including sugar-beet.	Social output, less subsidy.
	£	£	£	£	£	£
1938	465	167	298	423	67	356
1939	526	162	364	502	56	446
1940	444	131	313	450	60	390
1941	525	130	395	432	72	360
1942	547	139	408	521	107	417
1943	501	151	350	508	149	361

that as all farmers in this sample occupied their farms before the war, they are only typical of sitting tenants, and the position is likely to be different where farms have changed hands. It is apparent, however, that in the case of sitting tenants the rise in

rent has not been sufficient to offset the increased liabilities of the landlord which have resulted from rising costs. In consequence, either the maintenance of the fixed capital of the farm is absorbing a higher proportion of the rent, or it is being allowed to deteriorate. Table XXIII gives social output adjusted to 1938 prices with and without subsidies for both districts.

When recalculated on the basis of 1938 prices it will be seen that the war years have given a higher social output per 100 acres than 1938. In central Norfolk it rose from £465 to £501 between 1938 and 1943, and in south Essex from £423 to £508. But social output given above includes subsidies which in practice represent a transfer of income from the non-agricultural to the agricultural section of the community. On examining the extent of these subsidies, it is evident that whereas in central Norfolk the subsidy included in social output fell from £167 to £151, in south Essex it rose from £67 to £149. In the latter area, therefore, the adjusted social output less subsidy in 1943 was only £5 higher than in 1938.

Conclusions

(1) This investigation examines the changes, both physical and monetary, which have occurred in two groups of twenty-five identical farms on the central Norfolk loams and on the south Essex London clays, between 1933 and 1943. It also attempts to estimate their probable financial position if the system of farming followed in each of the war years had operated at 1938 levels of prices and costs: in other words, whether the farmers concerned would have been better off in 1938 if they had farmed their land as they did in, say, 1940, 1942 or 1943.

(2) Before the war, the two districts provided a striking contrast in farm organisation. In 1938 the central Norfolk farms, situated on medium loam land, were just over two-thirds arable, and war-time changes added less than 4% to their arable area. Their income was mainly derived from wheat, barley, sugar beet, milk and beef, and so continued during the war. This district, therefore, provided the general pattern towards which British agriculture was to move during the war years.

(3) The south Essex farms, on the other hand, were typical of heavy-land grass farms which had to undergo substantial adaptation to meet war-time needs. On these farms, between 1938 and 1943, the arable area, per 100 acres of farmed land, rose from 26 acres to 54 acres, or by 109%, with the result that a

considerable shift from livestock to cereals occurred in the sources of income.

(4) In central Norfolk gross income per 100 acres rose from £878 in 1938 to a maximum of £1,802 in 1942, and then fell to £1,540 in 1943, the fall in the latter year being mainly due to the reduction in barley prices. Between 1938 and 1943 the percentage of gross income derived from crops rose from 43·1% to 56·5%, while the proportion from livestock fell from 58·8% to 42·7%. In 1943 wheat actually provided a smaller percentage of gross income than in 1938—13·6% compared with 15·8%, but the percentage of income derived from barley had risen from 16·7% to 30·4%. A slight increase occurred in the proportion of income derived from milk.

(5) In south Essex the gross income per 100 acres rose steadily from £941 in 1938 to £1,664 in 1943. Over the same period the proportion derived from livestock and livestock products fell from 80·1% to 50·6%, while that derived from crops rose from 18·0% to 46·4%.

(6) Substantial alterations to the distribution of expenditure occurred in both districts. Labour as a percentage of total expenses rose in central Norfolk from 34·9% in 1938 to 43·2% in 1943, while in south Essex it increased from 25·9% to 33%. The percentage of income spent on fertilisers increased in both areas, but the percentage on purchased feeding-stuffs fell in central Norfolk from 13·7% in 1933 to 6·2% in 1943, and in south Essex from 26·6% to 9·4% over the same period. Rent as a percentage of total expenditure also declined in both districts. In central Norfolk expenditure as a whole increased from £790 in 1938 to a maximum of £1,116 in 1942. Between 1942 and 1943 it fell from £1,116 to £1,062, the fall in the latter year being mainly due to smaller purchases of feeding-stuffs and of livestock. In south Essex expenditure per 100 acres rose steadily from £829 in 1938 to £1,203 in 1943. After 1940 reductions occurred in expenditure of purchased feeding-stuffs, which fell from £256 in 1940 to £113 in 1943. Expenditure on fertilisers, on the other hand, increased from £27 in 1938 to £76 in 1943.

(7) When war-time production was adjusted to 1938 prices and costs the results were less spectacular. In central Norfolk gross income (£878 in 1938) was £924 in 1939, £868 in 1940, £904 in 1941, £918 in 1942 and £817 in 1943. In the same years gross income in south Essex (£941 in 1938) was £1,066, £955, £911, £957 and £948 respectively.

(8) Income and expenditure adjusted to 1938 prices and

costs indicate the changes in physical terms which have occurred in production and requirements. Comparing 1943 and 1938, it will be seen that quantitatively the amount of wheat sold on the central Norfolk farms was less in 1943 than in 1938, but sales of barley increased by roughly 11%. Milk output increased by 12%, but sales of other cattle were halved, while pig sales were quartered. Comparing gross income in 1938 and 1943, the income from crops was roughly the same in both years—£379 in 1938 and £384 in 1943—but the income from livestock had fallen from £489 to £424. In terms of requirements slightly less labour per 100 acres was used in central Norfolk in 1943 than in 1938, purchases of fertilisers increased by 50%, while purchases of feeding-stuffs and livestock were halved.

(9) In south Essex gross income calculated at 1938 prices revealed that in physical terms, wheat production had been more than doubled, barley production increased more than four times, sugar-beet and potatoes increased two and a half and four times respectively, while the production of market-garden crops had increased threefold. On the other hand, milk production, which in 1938 represented 55% of the gross income, fell by 31%, and the production of pigs 92%. On the requirements side 5% more labour was employed, and purchased concentrates fell by 60%.

(10) When income and expenditure were re-calculated at 1938 levels of prices and costs, there was little change in gross output in central Norfolk between 1938 and 1943, and no significant increase in the value of output per man. In south Essex a slight rise occurred in both gross output and gross output per man.

(11) Actual farm incomes per 100 acres in central Norfolk and in south Essex increased from £88 and £112 respectively in 1938 to £478 and £461 respectively in 1943: re-calculated at 1938 prices, however, they rose only from £88 to £135 in central Norfolk and from £112 to £186 in south Essex. Taken in conjunction with Table XX, which shows the amount of subsidy included in 1938 prices in each year, it is evident that while the war-time organisation in central Norfolk has slightly lessened the dependence of the area on subsidised crops, the reverse has occurred in south Essex, where the farm income in 1943 calculated at 1938 levels of prices and costs contains £149 in subsidy payments, compared with £67 in 1938. Nevertheless, even in south Essex, farm incomes excluding subsidy re-calculated at 1938 prices would have been higher than they were in 1938 in every war year except 1943. Further, as in south Essex the increase

in subsidy payment on this re-calculated income was mainly due to the support, roughly 20*s*. a quarter, required to maintain an average price of 45*s*. a quarter for wheat, the amount of subsidy would decrease sharply with a rise in world wheat prices above the low prices of 1938.

(12) In both districts the social output derived from the 1943 organisation calculated at 1938 prices and costs would have been higher than that of the 1938 organisation, and this would have been so even when subsidies were excluded from farm income. In south Essex, however, the increase in social income after omission of subsidies would have been only £5 per 100 acres, compared with £52 per 100 acres in central Norfolk.

(13) The increase between 1938 and 1943 in farm and social income calculated at 1938 prices, excluding subsidies, is symptomatic of the very great change in technical efficiency which has occurred in both districts as a result of the war, and is particularly surprising in the case of south Essex, where a fundamental change has occurred in the system of farming. Although impossible of proof, it appears likely that in this area the loss in economic efficiency at 1938 prices arising from a change over from grassland milk production to arable farming has been offset by the improvement in technical efficiency arising from the greater use of tractors, the increased use of fertilisers, better drainage, more efficient use of labour and a generally higher standard of farming.

(13) Incomes have also probably been temporarily increased by high yields resulting from the ploughing up of permanent pasture. It is, however, no indication that the heavy lands of Essex are likely to remain in wheat production after the war, as whether they do so will depend on the relative costs of wheat production in their area and in exporting countries, where technical efficiency is also likely to have improved during the war. The figures do indicate, however, the very great change, both in the order and efficiency of agricultural production in a heavy land district, which has been achieved under the stimulus of higher prices and direction of the War Agricultural Committees.

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INTERNATIONAL CAPITAL INVESTMENT AND THE DEVELOPMENT OF POOR COUNTRIES

Private Loans versus Direct Entrepreneurial Investment

SOME people, in advocating international investment, seem to think that investment in the form of loans between private persons of different countries is preferable to direct entrepreneurial investment, as the latter may put foreign investors in a position to influence the economic policy and general welfare of the country where their capital is invested. But this view seems to overlook the fact that even if all international investment took the form of such loans, the bond-holders would still be able to exert political and economic pressure on the debtor country, either directly on the debtor government and individual borrowers, or indirectly through the intervention of the investors' own government. This danger is enhanced if the investors are large power groups such as a banking consortium or other forms of private monopoly. This point shows quite clearly the interdependence between different countries with respect to the nature of their economic systems. The successful establishment and maintenance of a competitive economic order in any one country, especially if that country is poor, are very much dependent on the position enjoyed by large economic power groups in the "advanced" investor countries. If the investor country is under a competitive economic order in which the power groups are restrained, the danger of their exerting pressure on the borrower country might be considerably reduced. But it is probably correct to say that even in this case the possibility that foreign investment might lead to acute political disputes would still be present. There is no escaping the fact that, given sovereign States, all inter-State arrangements might result in political conflict, so long as national interests are not always identical.

Reasons for the Preference of Investors for Direct or Entrepreneurial Investment Abroad

Moreover, there is another significant fact to consider. Not only are the real advantages of international investment in the form of loans by private persons, to say the least, doubtful, but it seems at the same time improbable that this form of invest-

ment will be quantitatively significant. In the post-war world, unless some other way is found, direct investment will probably be the predominant form of international investment. There are many reasons for believing that this will be so.

First, foreign investors may not have much confidence in the good will of debtors, however the latter's credit standing may be boosted by government guarantees, etc. Secondly, they may not have much faith in the efficiency of " native " entrepreneurs. Both these factors are not altogether empirically unjustified prejudices. While the former is merely a matter of psychological attitude which can be rendered more favourable with happier experiences, the latter concerns the general standard of knowledge and ability in the poor country. Of course, arrangements can be made so that even under a system of loans the interests of investors would be guaranteed. One of the most promising ways might be the appointment by the creditors of the chief engineer and chief accountant of any firm. Thirdly, the average business man in the investor country may not be free from the prejudice that any form of investment in a foreign country other than the opening of branch factories amounts to handing over control and equipment to foreigners. Whereas, when pressed to elaborate on this attitude, he might admit that even other forms of investment would not necessarily force the investors to play the rôle of Santa Claus, he would probably still feel that there was something wrong about the whole matter. Fourthly, it cannot be questioned that direct investment carries with it the advantage of control. Highly skilled workers and up-to-date knowledge could automatically accompany direct investment, thus saving the investors the trouble of making special arrangements with the borrower. A corollary to this is the probability that, in direct investment, orders for equipment and other goods will go to the investors' country, if not to their own enterprises, whereas in the case of a loan, special stipulations may have to be made to secure the same advantages. Fifthly, it has been pointed out by the authors of *The United States in the World Economy* [1] that, so far as the United States is concerned, experience in the inter-war period shows that direct investment was not subject to business-cycle influence to as great an extent as the more formal type of investment abroad in loans. Consequently, if investors in the United States and elsewhere prefer a continuous flow of capital investment abroad,

[1] Hal B. Lary and Associates, *The United States in the World Economy* (U.S. Department of Commerce).

and if they believe in the existence of a tendency for direct investment to be less fluctuating, it is only natural for them to prefer direct investment to other forms of international investment.

Supposed Merits of Direct Investment

Reasons for investors preferring direct investment are by no means identical with genuine merits of direct investment as a form which international capital flow may take. But they have very often been mixed up, and it is not surprising that confusion is rampant, inasmuch as some people seem to argue that direct investment is desirable and ought to be preferred because it is preferred. An example of this is the last point mentioned in the preceding paragraph. People may prefer direct investment because in the past its flow was steadier than that of loans, and because they believe it may remain so. It cannot be denied that continuity is an advantage from the point of view both of investors and of debtors. But it seems that an important point has been overlooked. For it is just possible that direct investment showed greater continuity simply because people preferred it to other forms of international investment. Referring to American experience, Mr. Lary writes, " The expansionist psychology that possessed American business in the 'twenties had its influence, and the resulting pressure for markets and assured foreign sources of supply was of great importance. Hence, the course of new direct investments was not so closely linked with vagaries of the bond market as were new foreign issues." [1] If this is correct, then it seems to be obvious that direct investment produced a steadier flow than loans not because it is less subject to the influence of the business cycle in the logic of things, but mainly because investors in the United States continuously resorted to it. Thus while some maintain that direct investment ought to be preferred because it exhibited continuity, it is possible that it did so only because it was preferred. While the fact that it was preferred may be an important, if not a sufficient, reason for people's preferring it in the future, it is not sufficient to establish a definite ground for its desirability. For we still have to analyse why people prefer it irrespective of its past behaviour.

Direct investment can, however, claim the possession of certain real merits. First, during the downswing of a trade cycle, the exchange situation of the debtor country will not be subject to the strain of having to provide foreign exchange for

[1] *Op. cit.*, p. 103.

foreign loan service. Secondly, even when the capital market of a certain country is still not so developed as to be able to deal with the flotation of foreign issues, individual enterprises in the country may already be in a position to make direct investments abroad. In other words, foreign investment, when it takes the form of direct investment, is less likely to be monopolised by established creditor countries in the world economy.

On further examination, however, these merits seem to us to be more apparent than real. The first point appears to be a definite advantage to the debtor country. But it may be questioned whether arrangements could not be made in the case of international loans to secure a similar safeguard to the debtor country's foreign exchange situation during a depression. For instance, lenders and borrowers may agree to the tying of interest and principal payments to some sort of index of the general state of business. To this critics may reply that lenders would not be willing to make loans with such stipulations. But even the profitability of direct investments is subject to general business fluctuations. Why should investors then be willing to make direct investments in spite of their knowledge that profit might decrease with depression? An explanation of investors' attitude in this respect has to be sought in their preference for direct investment as such which is, of course, in itself not sufficient to show that it is the most desirable form of international capital investment.

As to the second point, it is true that both from the political and the economic points of view, the wider the diffusion of opportunities for investment abroad, the better. For it tends to decrease the growth of vested national interests in a very important field of international relations, and gives enterprise and specialised skill a wider scope than they would otherwise have. But direct investment, as we shall see, is not the only form of international investment that can have this effect.

Power Groups and Direct Investment

While it is difficult to establish the desirability of direct investment, it is much easier to show why it will be rather important after this war. In addition to the general factors already mentioned, there are some special reasons which may operate rather intensely if there are large economic power groups in the investor country.

Let us consider the case of two entrepreneurs in a certain industry in a poor country; one a native of the poor country,

the other a foreigner from a rich country. By assumption, the former is confronted with a higher rate of interest than the latter. When they have both drawn up their optimum production plans, the marginal increment of investment made by the poor entrepreneur must yield a higher gross rate of returns than that of the rich entrepreneur. In other words, a higher proportion of the marginal yield will have to go towards the payment of interest in the former case than in the latter. Under the assumption that the price of the commodity is the same for both producers and that other conditions are also equal, if the poor entrepreneur is not to cease to exist, his marginal physical returns to investment must be correspondingly higher. This is hardly possible in view of the fact that our poor entrepreneur is *ex hypothesi* hampered by the shortage of capital which prevents him from enjoying the advantages of what Professor Young termed "large and large-scale production." If the difference between the rates of interest is large, it is most improbable that the poor entrepreneur will be able to draw up a really profitable production plan. If the foreign entrepreneur further purposely reduces the price of the commodity, he can almost be sure that the native entrepreneur will not be able to compete with him. Even if with the help of specially favourable circumstances such as the possession of better knowledge about local conditions (against which must be set the probably much better technical knowledge of the foreigner), the native entrepreneur manages to survive, he may have to operate on a much more reduced scale than he would otherwise. For if demand for the commodity concerned is not perfectly elastic, the advent of the foreign entrepreneur on the market will tend to lower the price, and that will, on the one hand, tend to decrease the volume of the native entrepreneur's profits and hence his capacity of self-finance, and, on the other hand, may decrease the supply of capital to him from his creditors as a result of their reduced confidence in his chances. Once this happens, the effect is bound to be cumulative.

The superiority of the foreign entrepreneur with respect to the supply of capital will in all probability be aided by his possession of better technological knowledge. This is a very important factor, especially if he has some control over technology in the sense that he could prevent the native entrepreneur from acquiring the use of certain patents. The pooling of patents among large monopolistic interests for the purpose of consolidating their power and sharing the world market has become a well-established fact; so has the use of patent control within any national economy

for the purpose of keeping out competitors. There is every reason to believe that the same weapon might be used against the native entrepreneur.

There appear to be several ways of preventing the establishment of a monopoly in the poor country by the foreign entrepreneur. The investor country may pursue a policy of restraining the growth of economic power groups. Since the growth of private economic power abroad strengthens the position of the enterprise in general, including its power at home, the State should in the interest of the stability of the system see to it that private foreign investments are conducted on a competitive basis and in any case do not exceed certain limits per business unit. The question is whether such a policy will be pursued, and, if pursued, whether the limit to the size of individual foreign investment will be such as to prevent effectively the growth of monopoly groups in any particular poor country. Secondly, direct investment may be made in a poor country by entrepreneurs of different nationalities. But unless this is accompanied by the previous condition, it is more than doubtful whether effective competition will be maintained. A more likely result is the emergence of international monopoly interests, probably fighting against each other, but with the combined effect of reducing the welfare of the poor country. Thirdly, the poor country itself may try to control the growth of power groups inside its borders, whatever may be their nationality. Since it is almost certain that the first two ways of control will not be forthcoming, it is on this last means that the poor country will have to rely, unless, of course, direct investment is to be replaced by something else. But the poor country is confronted with a thorny problem. How can the growth of power groups be controlled inside its border if they are already powerful outside? How can effective control be reconciled with the need for foreign capital?

Another special reason for the investor's preference for direct investment is that if monopoly interests are to be maintained in the world economy as a whole, identical interests should preferably be created in the "backward" countries. Competition is favoured by any extension of the market. Since the "backward" regions, when developed, will provide large markets, it is in the interest of the existing monopolies in the rich countries to try to get there first. In view of the ease with which native competition can be brushed aside, this argument is considerably strengthened. While this may not apply to the competitive

enterprises in the rich countries in full measure—but these too may wish to become monopolists abroad just the same—it seems its significance is greatly enhanced by the probability that only larger power groups in the "advanced" countries will be willing and able to start new enterprises in the poor countries. Others may not have the initial capital and may have to plan for more immediate gains. So long as the poor countries or some other agency does not provide an adequate information service on trade prospects, etc., there is the further obstacle of inadequate knowledge and exaggerated risks.

Joint Enterprises

There is another type of direct investment by foreign investors, viz., the establishment of joint enterprises in which foreign and native entrepreneurs both undertake to contribute a part of the capital. If in a joint enterprise the foreign interest has a controlling share, then the danger of the growth of power groups of alien nationalities will still be present. Unless legal restrictions are imposed on the nature of control and management, there is no apparent reason to assume that foreign investors will not try to get the controlling share. If, however, such restrictions are imposed and enforced, the consequence might be the discouragement of the inflow of foreign capital in this form, especially if direct investment without the participation of any native capital is allowed. On the other hand, if joint enterprises are established despite legal restrictions on foreign capital, there arise two significant points. First, joint enterprise as such does not in any way prevent the emergence of individual monopolistic undertakings, although control of the monopolies may be vested in native hands. It is free from the disadvantages of the simpler form of direct investment only when there are simultaneously legal restrictions on the share of foreign capital and provisions to combat the growth of economic power groups in general. Secondly, in a poor country, if native capital is to be the major part in any joint enterprise, the rate at which capital investment in this form can be made will be conditioned by the availability of native capital. Consequently, the poor country cannot rely on joint foreign–native enterprises of the restricted type for rapid industrialisation. In order to obtain a high rate of development, this type of joint enterprise must not be the only form of foreign capital inflow.

If our contention that in the post-war world capital for international investment will come chiefly from large power groups in

the "advanced" countries is correct, it is highly doubtful whether these investors would choose joint enterprise in preference to direct investment of the purer type. Even if they did, it would still be up to the poor country to try to augment the supply of foreign capital in some other form. There would only be a change in the quantitative aspect of the problem discussed here.

In addition, two more difficulties inherent in joint enterprises may be pointed out. First, since the native and foreign investors are not faced with the same rate of interest in raising the capital required, differences will arise in connection with business and dividend policies. Secondly, the foreign investor may be a large corporation with a high degree of vertical integration. It would be difficult for such an investor to find a corresponding native partner in a poor country. It would be obliged to establish joint enterprises with different firms, and this may act as an additional deterrent to the investors in choosing this form of investment.

Advantages of an International Investment Trust

Since most of the objections to various forms of bilateral investment arise out of the fact that there are more than one sovereign State and more than one economic system in the world at any given time, the ideal solution might be the creation of a world federation and the establishment of a competitive world economy consciously maintained. It seems, however, that while not losing sight of this ideal, one should try to find a less ambitious method of accomplishing the same thing. In other words, although not necessarily sharing the view of some people that world federation is utterly utopian, one should probably try to find an arrangement by which international investment can take place on a large scale for the development of "backward" countries and for the enhancement of economic welfare in general without incurring the risk of not reaching the end through choosing the wrong means. For those who believe in the need for world federation as a means of peace, one might add that such an arrangement will perhaps help to make federation in the future less difficult.

In order to eliminate the political factor common to all bilateral arrangements, it seems to be essential that capital investment by one country in another should be made truly international, and not just an inter-State affair. In order to remove the threat of economic power groups establishing themselves in a poor country in the guise of investors, it appears

necessary to sever as far as possible the link between the investor power group and the control of the investment. These conditions could be satisfied by the founding of an international investment trust as a central agency for the international flow of capital investment.

The main task of the trust should be to grant loans to entrepreneurs, large and small, and of whatever nationality, without discrimination, provided that the genuine prospect of the undertaking is ascertained. The possible exceptions to this rule are loans for investment in personnel training and loans to meet an emergency, as profitability cannot be a guide here. This work might be done in co-operation with the central economic authority in any particular country charged with the duty of maintaining the competitive order. Allowing a risk premium appropriate to every individual case, the rate of interest charged should be fixed at an intermediate level between the high rate common to the "backward" countries (*e.g.*, 12–20% in China) and the low rate obtained in the "mature" economies. The criterion is to try to equate the investment demand for capital of the poor countries with at least the surplus savings of the rich communities. Interest payment might be suspended at the request of the borrower after he has satisfied the trust that this is necessary on account of a general depression or some other unforeseen reason.

To obtain the capital necessary for investment through this international trust, arrangements should be made not only with a view to the "surplus" capital finding its way there, but also with the purpose that savers can always have the option of putting their funds at the disposal of the trust instead of investing them at home, if by so doing a higher rate of returns could be obtained. This would probably bring about a levelling-up of capital distribution in the world. The trust should be empowered to raise capital in any national capital market and an initial subscription should perhaps be made by the central banks.

Within the economy of the "backward" countries, there is no danger of upsetting the rules for the maintenance of the competitive economy by the inflow of foreign capital in this manner, and there is no need to abolish arrangements for loans and direct investments between individual countries. But it should be provided that *such arrangements must be first approved by the trust*. The main criteria for approval must remain: first, whether the growth of power groups is likely to be fostered or not; and secondly, whether political disputes are likely to arise out of such investments. Obviously, unless the total of bilateral

investments is confined to a low figure, the international investment trust runs the risk of being practically displaced. But if it exercises its control rigorously over other forms of international investment, there is no reason why it should not function well.

The control of the trust, however, should be vested in the hands of independent men whose main responsibility is the efficient management of the trust on business lines. The principal investor and debtor countries should be represented on a council whose function is to advise the directors. Finally, the directors of the trust should stand in the same relation to the post-war world organisation as the Supreme Court in a democracy stands in relation to the legislature, so that the trust will be free from political control and in a position to follow a continuous policy.

In the case of an international investment trust it seems that not only will the drawbacks of bilateral investments be absent, but certain positive advantages otherwise unobtainable could be secured. First, the trust will be able to take advantage of specialisation in production and skill and advise the borrower on the best sources to satisfy his requirements. No national or individual interest will be involved. Secondly, the trust will be able to see to it that the development of any poor country will take place in such a way that the benefits of simultaneous expansion will not be lost through lack of capital on the part of any section of the industries. This is impossible under bilateral arrangements unless investors start to pour capital into a certain country simultaneously for a number of purposes. It should be noted that this suggestion does not involve the planning of investment in the sense Dr. Rosenstein-Rodan and other planners would understand it.[1] All that is required is the simultaneous granting of loans to different entrepreneurs in the same region.

Thirdly, the trust, in conjunction with the economic authority of any individual country, should be able to make large investments for the acquirement of new and existing knowledge. This is something which no ordinary bilateral investment arrangements can achieve on a substantial scale. If investments in the training of personnel and in new knowledge have to be subsidised by the State because of the high risks and the discrepancy between marginal social and marginal private products, the reason for a subsidy is all the stronger when foreign investors are supposed to supply the capital. But the investors' government will certainly not subsidise on a large scale the training of foreigners and

[1] Cf. Rosenstein-Rodan's article in the ECONOMIC JOURNAL, July–September, 1943.

the development of new knowledge in foreign countries. It would not stand to gain by doing so. From the point of view of the "backward" countries, it would not be sufficient to depend for the promotion of this important element of progress chiefly upon political gestures of foreign governments, the attempts of self-advertisement by big firms and the charitable mood of millionaires. On the other hand, since they are poor, they are not in a position to grant large subsidies commensurate with requirements. And if the State is hard pressed, it is possible that far from granting subsidies to private investors, it will make all investments of this nature in its own undertakings. Such a development would seem to be undesirable. The problem can be solved if capital for the above purposes could be supplied by the trust. It might be difficult to arrange for interest payment to such loans. One way out would seem to be the pooling of interests with other loans for investments in which the trained personnel will take part. In practice, of course, such investments might be made free of interest; the trust will then have to be subsidised by the World Economic Council which, presumably, will have its own resources. In the latter case, the trust will act as an agent of the World Economic and Social Council.

Fourthly, in case of emergency, the trust can more easily direct international investment into any given channel. For instance, capital can be poured into a country to prevent a great disaster like flood. Similarly, the timing of some development projects may be arranged in such a way that if the rate of investment in a certain region should threaten to drop in a precipitate manner, they could be switched on immediately. Such advantages cannot be over-estimated, especially in the post-war world when economic structures have to be readjusted and overhauled.

Fifthly, since "extensive" expansion may figure large in the future expansion of investments, it is desirable to have an organisation which will not be hampered by lack of knowledge and contact in the quest for investment opportunities. The trust will be able to satisfy this condition and enable international capital flow to take place on a considerable scale and with continuity.

Finally, the international investment trust can afford to have a broader outlook than the government or private investors of any country. To make certain that their investments will be profitable, the latter will be interested in the political stability of the country in which their capital is invested. Political stability, it seems, can be achieved, at any rate in the short run,

by having a strong government. It is only too true, however, that all strong governments are not necessarily good. It may be impossible to have political and economic freedom under such a government. It is well known, for instance, that American industrialists are intent on making large investments in China after the war: Their first condition appears to be political stability.[1] But from the point of view of welfare, the way in which political stability is achieved is no less important than stability itself. While the government and/or investors of any rich country with surplus capital would probably choose the way of least resistance, *i.e.*, by assisting in the establishment of some sort of strong government, the trust, being part of a world organisation, while following the criterion of profitability, might yet allow itself the luxury of a broad and humane outlook which the former probably cannot and in practice will not possess. In other words, the trust could be a strong weapon in promoting economic development in a democracy as well as in curbing the growth of the economic power of a non-democratic State.

The advantages of the trust having been established, it is pertinent to ask whether there is already some concrete suggestion on such lines in the unending stream of post-war international agreements. What about the Bretton Woods proposal of an International Bank of Reconstruction and Development?[2] While the projected International Bank is definitely a step in the right direction, it seems to fall short of the international investment trust proposed above.

Criticisms of the Bretton Woods Proposal of an International Bank for Reconstruction and Development

One of the chief purposes of the Bank, which is perhaps the most important one, is "to promote private foreign investment by means of guarantees or participations in loans and other investments made by foreign investors; and when private capital is not available on reasonable terms, to supplement private investment by providing, on suitable conditions, finance for productive purposes out of its own capital, funds raised by it and its other resources."[3] As we shall see more clearly in a moment, the emphasis seems to be purely on the supplementing of what-

[1] See, for instance, *Factors in Chinese Economic Reconstruction.* (A summary of discussions organised by the IPR.) December, 1942.

[2] *United Nations Monetary and Financial Conference. Final Act.* Cmd. 6546.

[3] *Ibid.*, p. 46.

ever private and bilateral investment fails to do by itself. In other words, the Bank can only help investors and borrowers when help is required. It cannot prevent any bilateral investment from taking place even if it foresees that the consequences may be undesirable. In the case of a loan, it might prevent exploitation if its advice is sought. But it is absolutely powerless in the case of direct investment undertaken by private investors, which, according to the foregoing analysis, will be the main source of trouble.

The guarantee system itself is not so much open to criticism when it is undertaken by the International Bank as when it is provided by individual governments. An international organisation may not be liable to as much political pressure as an individual government. It cannot bring any undesirable political consequences to any particular country directly as a result of its having guaranteed some of the investments made there by foreigners. Moreover, with $10 milliard at its disposal as capital, as well as other resources, it can afford to suffer losses, which, however, will be reduced, because risk can be spread widely. Besides, the provision that the member (or its agents) in whose territory the project is located will act as a guarantor will further diminish this risk.

However, the Bank's operations seem to be rather restricted. Before making or guaranteeing a loan, the Bank is to be satisfied "that in the prevailing market conditions the borrower would be unable otherwise to obtain the loan under conditions which in the opinion of the Bank are reasonable for the borrower." [1] From this it seems that the idea is clearly to pick up what bilateral arrangements would otherwise leave untouched, and to induce those marginal investors who would otherwise have to impose "unreasonable" conditions on the borrower, to relax them. There is no intention that the Bank should displace bilateral arrangements either entirely or even partly. Support for this view can be further found in the condition laid down in the Agreement that "loans made or guaranteed by the Bank shall, except in special circumstances, be for the purpose of specific projects of reconstruction or development." [2] In other words, private entrepreneurs engaged in ordinary manufacture, etc., will not be catered for. Since these entrepreneurs are not likely to be in a position to obtain foreign loans, a still wider field is left to direct investment by foreign investors.

[1] *United Nations Monetary and Financial Conference. Final Act.* Cmd. 6546. Article III, Section 4 (2).

[2] *Ibid.*, Article III, Section 4 (7).

Although the Bank is to guarantee and participate in "*other investments* made by private investors," apart from loans, one's impression from reading the Agreement is that the Bank is chiefly to guarantee and participate in loans only, and, for that matter, only loans of a special character, as little is said beyond that about the "other investments." If this impression is correct, then it is obvious that since only large economic groups may actually dispose of capital for direct international investment, the Bank is going to leave this field almost completely to these groups. Besides, in so far as the guarantee system also operates with respect to direct investment, it may not be able to prevent the growth of monopoly interests at all. For even if it were stipulated that investments by actual and potential monopolies would not be guaranteed, it would be faced with the stark fact that no guarantee would probably be sought in these cases. Of course, "reasonable conditions" and "special circumstances" are ambiguous terms, which give the interpretation of the Bank's function a certain amount of elasticity. But on the whole it would seem that one is justified in saying that the Bank will not accomplish what the international investment trust could achieve.

That the Bank may not be expected to be much more than an enlarged export credit guarantee organisation, though it must be admitted that the loans guaranteed by it will probably be of somewhat longer duration, finds further support in the relatively small authorised capital stock of 10 milliard U.S. dollars of the weight and fineness in effect on July 1, 1944. The full payment of the subscriptions may be spread over a number of years. It is stipulated that "the total amount outstanding of guarantees, participations in loans and direct loans made by the Bank shall not be increased at any time, if by such increases the total would exceed 100% of the unimpaired subscribed capital, reserves and surplus of the Bank."[1] Probably, and at least in the first few years, the capital stock is going to figure largely in this total, which sets a limit to the scale of operations. Since at any time not all the subscribed capital may have been called in, it is possible that the total scale of operations will not be substantially larger than 10 milliards at the beginning of the Bank's existence If "extensive" expansion is to become increasingly important, it is very probable that the Bank cannot hope to handle all international capital investments.

All this does not mean that the creation of the Bank should

[1] *United Nations Monetary and Financial Conference. Final Act.* Cmd. 6546. Article III, Section 3.

be discouraged. For there are certain purposes which it shares with the international investment trust. These are:

> "To assist in the reconstruction and development of territories of members by facilitating the investment of capital for productive purposes, including the restoration of economies destroyed or disrupted by war, the reconversion of productive facilities to peace-time needs and the encouragement of the development of productive facilities and resources in less-developed countries.
>
> "To promote the long-range balanced growth of international trade and the maintenance of equilibrium in balances of payments by encouraging international investment for the development of productive resources of members, thereby assisting in raising productivity, the standard of living and conditions of labour in their territories.
>
> "To arrange the loans made or guaranteed by it in relation to international loans through other channels so that the more useful and urgent projects, large and small alike, will be dealt with first.
>
> "To conduct its operations with due regard to the effect of international investment on business conditions in the territories of members and, in the immediate post-war years, to assist in bringing about a smooth transition from a war-time to a peace-time economy." [1]

But it is important to realise that with the limited scope within which the Bank is to operate and with the limited means at its disposal, the Bank might not be able to accomplish much. To the extent that it fulfils some of the above purposes, it is a useful organisation. But its success is possible only when it does not come into conflict with the interests of the economic power groups which will be the main investors and the growth of which in the poor countries it will do nothing to restrict.[2]

The limitations and pitfalls of the Bank are perhaps to be explained by the origin of the proposal. For in many respects the Agreement closely resembles the earlier American document entitled "Preliminary Draft Outline of a Proposal for a Bank for Reconstruction and Development of the United and Asso-

[1] *United Nations Monetary and Financial Conference. Final Act.* Cmd. 6546. Article I (i), (iii), (iv) and (v).

[2] It seems that the way in which voting power and the amounts of subscriptions are related is open to criticism in that it gives certain countries a certain amount of voting power only by requiring them to subscribe shares which may otherwise be out of proportion to their capacity or need.

ciated Nations."[1] According to the latter, "the Bank would make no loans or investments that would be secured from private investors on reasonable terms. The principal function of the Bank would be to guarantee and participate in loans made by private investment agencies and to lend directly from its own resources whatever additional capital may be needed." This may reflect the attitude of American financiers and industrialists. A pamphlet issued some time ago by the National Association of Manufacturers in the United States on "Principles Governing Foreign Investments," so far as the report of *The Times* goes,[2] seems to bear out this view. The manner in which the International Bank proposal has been received, especially by the American Bankers' Association, so much in contrast with the criticisms accorded to the Monetary Fund proposal, is a reasonable indication of the mood of American capitalists, the chief suppliers of capital for foreign investment after the war. In the light of our analysis we can easily understand why American capitalists appear to favour the replacing of the International Bank by an expanded Export–Import Bank, and why they question the need for the Bank at all, since all profitable foreign investments will be undertaken in any case by private investors, whereas unprofitable investment should not be made at all. Unfortunately, they seem to have failed to realise the important effect that the form of international investment may have on the welfare of the poor countries the development of which is their professed aim.

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[1] Issued by the U.S. Treasury on November 24, 1943.
[2] *The Times*, February 12, 1945.

REVIEWS

Price Flexibility and Employment. By OSCAR LANGE. (Bloomington, Indiana: The Principia Press, Inc., 1945. Pp. xii + 114. $2.00.)

DR. LANGE has produced a distinguished and interesting monograph on the question whether the reduction in the price of a factor of production is likely to lead to an increase in its employment. Dr. Lange is well versed in recent literature, and his book is embellished with references to it. He is clearly a fine master of analytic reasoning; his touch is sure and often elegant. It is a pleasure to follow him when he sets out to prove that some principle is only a special case of one still more general. This is a work that close students of this subject will feel it their duty to read. Dr. Lange has some practical conclusions that deserve consideration.

This being so, and the subject treated by Dr. Lange being a central one in economics, it seems desirable to summarise the general gist of his contentions and assess the importance of his work as a contribution to the main structure of our economic ideas.

Before proceeding to the central theme, it is necessary to get one criticism out of the way. In restating the general equilibrium theory (Ch. 3, first paragraph), Dr. Lange assumes in general that the reduction in the price of one factor will, owing to substitution, diminish the demand for the others. In certain circumstances this would be so, but it is surely not proper to take this as the general case. Factors may be co-operant or alternative to one another. The latter attribute belongs to factors that are very specific. Thus if tool B becomes cheaper it may lead entrepreneurs to have no further use for tool A (which does roughly the same job). But in the context of the enquiry, in which we are interested in changes in the prices not of highly specific factors, but of widely employed factors or categories of factors (the "changes in money wage rates" of Ch. 1), the co-operant attribute predominates. For such a purpose we may retain the old doctrine that an increase in the supply of one factor tends, assuming technological knowledge to be unchanged, to raise the demand for the others; if more capital becomes available in the community, this will tend to raise the marginal product of, the demand for, and the wages of labour; if more capital and labour are applied to land, rents will tend to rise.

Dr. Lange's unacceptable assumption, encountered at the threshold, need not, according to my understanding of the matter, be taken to upset the arguments of the rest of the book. It seems that we may re-cast the opening section, without damage to the author's intention, as follows. Let us suppose that factors are prevailingly under-employed, in the sense that the range of factors among which under-employment exists exceeds that in which the supply is short of the demand. If the principle of flexible prices operates, factors will on balance try the experiment of offering themselves, and thereby the consumer goods or investment goods that embody them, at lower prices to the buyers. Will this lead to an increase of employment? This is Dr. Lange's quintessential question.

The experiment will, according to Dr. Lange, be successful (i) if the monetary system reacts "positively" and (ii) if its positive reaction is sufficiently large to overcome certain obstacles. It is supposed, however, that in certain not improbable circumstances no reaction might be sufficiently large and that the obstacles would then have to be attacked directly.

The first condition is easily satisfied. After the development of some perhaps unnecessarily elaborate terminology, it turns out that a monetary system is said to react "positively" to a fall in prices, if the quantity of money in the community does not decrease in full proportion to the fall in prices. But neither under an automatically worked gold standard nor under other unregenerate monetary systems of which we have had experience does the quantity of money fall so much as that in a time of falling prices. Therefore we may take Dr. Lange's first condition as usually fulfilled by all monetary systems, good or bad, that are commonly used.

But will the positive reaction be strong enough to overcome the obstacles? The principal obstacles discussed may be grouped under the heads of (*a*) friction, (*b*) "elastic" price expectations, (*c*) oligopoly and oligopsony, and (*d*) certain matters connected with foreign trade. (The fourth item is dropped from the summary list on p. 83.)

It would also help the success of the experiment if the demand for investment goods were sensitive to a fall in interest rates. Dr. Lange gives strong reasons for holding that we must not expect high sensitivity here. There is always the possibility, however, on which Dr. Lange does not dwell, that a large fall in interest rates, perhaps approaching the zero level, might cause expansion by seriously reducing the propensity to save.

Now while the absence of sensitivity here is unhelpful to the success of the experiment, it seems clear that Dr. Lange considers that if the monetary response were positive and the other obstacles not present, a reduction in factor prices would stimulate employment, even if the demand for investment goods did not respond to a fall in interest rates, and indeed even if there were no fall in interest rates. In this he is in direct conflict with Keynesian doctrine. In the Preface he writes that " the interest in the problem and the recognition of the crucial importance of substitution between money and goods were inspired by Lord Keynes." None the less it must be said that Dr. Lange's general theory does not belong to the Keynesian family.

While Dr. Lange's analysis of the obstacles and practical proposals for overcoming them are of interest and importance, it is clearly a prior task to consider whether he is right in holding that in their absence a fall in factor prices would increase employment. He thinks it would do so because it would lead to a " substitution of goods for money." The real value of cash balances having risen owing to the fall in prices (and the quantity of money units outstanding not being reduced in proportion) the community becomes willing to dispense with part of its holding of cash balances in exchange for goods.

But, with respect, this formulation of the problem will not do. For on one side of the " substitution " is a stream of goods flowing through time and on the other side a fund. Dr. Lange is trying to equate two quantities of different dimensions. When there is under-employment he says that this may be alternatively expressed as an excess supply of goods or an excess demand for cash balances, these two being equal in quantity. It is clear that what he means by " an excess supply of goods " is not in the nature of a surplus stock of commodities, which would be absorbed, if the community could make a once-over swap of some of its money for them, but a continuing stream of additional goods that would be produced if the under-employed factors became fully employed.

Dr. Lange's theory would only work if the system were in all other respects in neutral equilibrium. The release of cash would then give it the once-over fillip which would be all that was needed to raise it to a higher level of output. But if the system were held in stable equilibrium (as on Lord Keynes' general theory) at a level of under-employment by the balance between investment opportunities and the propensity to save, it would relapse back after the monetary fillip if the investment opportunities and propensity to save were unaltered.

It might be objected that the surplus cash balances give an enduring stimulus, on the ground that although the community wants to swap them for goods, it cannot get rid of the surplus in this way, provided that the quantity of money in the community is not reduced, and that the continuing attempt to get rid of it in exchange for goods will maintain the stimulus to employment. But if the community persists in this attempt, it will find that it is spending on goods a higher proportion of its income than it did before or wants to spend. Unless some force comes into existence to reduce the propensity to save, the whole of the surplus balances will eventually be syphoned off into the capital market, and, save for any effect of a fall in the rate of interest, employment will relapse to its previous level.

In his Preface Dr. Lange tells us that his "restatement leads to the conclusion that substitution between money and goods provides the key for understanding the equilibrating as well as the disequilibrating processes of the economy." This incidentally does less than justice to the other obstacles which he discusses. But the real truth of the matter is that he only reaches the conclusion that the substitution between money and goods is so important by assuming without argument that the level of output is otherwise in neutral equilibrium.

What of the other obstacles? Dr. Lange perhaps makes unduly heavy weather about friction. The excess cash balances, he observes, may not be directed towards the purchase of goods embodying the under-employed factor. But money circulates. Moreover if we are considering a disequilibrium of substantial importance in relation to the whole system, the under-employed factors will presumably be embodied in a wide variety of goods.

What he has to say on price expectations is of great importance, whether one accepts the monetary analysis or not. He gives an excellent account, with debt to Professor Hicks acknowledged, of the destabilising effect of price expectations when these extrapolate the direction of current price changes into the future. He returns to this question in his chapter on policy and suggests that, to counteract the tendency, the price of some important commodity should be fixed. He recognises that this was done by the gold standard, but argues that "gold was a poor commodity to choose for that purpose." His alternative of fixing wage rates is open to political difficulty and indeed to respectable sociological objections. The fixing of some one staple product such as wheat, which he also suggests, might lead to the accumulation of an unmanageable surplus, unless accom-

panied by organised restriction of output which would nullify those ramifying effects that the fixing is designed to secure. Dr. Lange refers to the idea of stabilising a general level of commodity prices, leaving individual prices free. It may well be necessary to go as far as this to remedy the evil.

In regard to oligopoly and oligopsony he hangs much upon the evidence given by business men in Oxford and the tentative conclusions published by Messrs. Hall and Hitch. It is gratifying that he does so, although the group would not claim finality for the analysis. Furthermore, while Dr. Lange argues correctly that behaviour of the kind described may impede the passing on of cost reductions to consumers, it is not clear that in all cases or even in the majority of cases factor price reductions would not be passed on. Oligopolistic behaviour is often accompanied by price variation to match changes in the cost of raw materials, and reductions in important factor rewards might well be treated in the same way.

Dr. Lange suggests that the only effective cure for oligopolistic behaviour (which may be very widespread) may be socialisation of the industries affected. This is very drastic. Since oligopolistic behaviour (in contrast to monopolistic behaviour) is in essence due to uncertainty and ignorance, it should be possible to break this bottleneck by the wider diffusion of correct standards of behaviour in response to factor price reductions. Or resort might be made to the British plan for the supply of "utility" goods, combined with auditing of costs; or marketing arrangements could be improved.

Dr. Lange's practical recipes must also be looked at from another point of view. If his monetary analysis is not accepted, we may revert to the theory of Lord Keynes or some other theory. In the former case, we shall not be disposed to recommend general factor price reductions to cure unemployment, and some other positive remedies must be applied. Whatever these may be, "elastic" price expectations are likely to prove an obstacle to expansion, and Dr. Lange's requirement for a specific remedy for them must be taken seriously. The oligopolistic obstacle, on the other hand, may not be formidable or even present at all if we adopt remedies other than factor price reduction.

Dr. Lange's treatment of oligopsony is somewhat obscure. He postulates that oligopsony and monopsony in the factor markets have greatly increased since the last century. This is clearly incorrect. Oligopsony has greatly decreased together with the practice of monopsony by individual employers. The

rise of collective bargaining (a half-way house to monopoly) on the labour side has removed the possibility, save in conditions of labour shortage, of monopsonistic or oligopsonistic behaviour by individual employers, which before had been universal. The existence of agreed standard wage rates presents them with the conditions of a perfect market as buyers; marginal expenditure per unit of labour employed is equal to marginal cost per unit.

In the main body of his chapter on international trade Dr. Lange argues that in the general case its presence will tend to make factor price reductions stimulate employment. This follows also from Keynesian premises, although sufficient attention is not always paid to the point. In the final paragraphs, however, Dr. Lange casts doubt on this conclusion, on the ground that the effect may not be found to operate when full account is taken of reactions in other countries and the resulting redistribution of international balances. But his analysis of these reactions and this redistribution is not nearly thoroughgoing enough to warrant casting doubt on the main proposition.

It has only been possible to select some of Dr. Lange's salient points for consideration. It may be worth while, finally, to draw attention to his references to dynamics. In Appendix 2 " dynamic stability conditions " are set out; the equations are genuinely dynamic in that they refer to rates of the movement of prices. They define conditions in the field around a postulated equilibrium of the system. But they only touch the fringe of economic dynamics. We shall not have got a genuine dynamics of the subject, until the variables, the values of which are determined by the fundamental equations of the equilibrium, are not rates of production per unit of time, but rates of increase of production, rates of capital accumulation, etc., per unit of time. The introduction of dynamic considerations into the analysis of what happens when the system is in disequilibrium is an advance; but we shall not have reached our goal until we can define the normal condition of the system as being one of motion, a state of rest being a special and improbable case.

Dr. Lange's work should serve to stimulate and advance thought about many branches of economics, even if his central thesis regarding the substitution of goods for money is not accepted.

R. F. Harrod

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Oxford.

Full Employment and Free Trade. By MICHAEL POLANYI, F.R.S. (London: Cambridge University Press, 1945. Pp. x + 155. 8s. 6d.)

THIS lively essay has three points to make: that "the Keynesian theory is really quite simple"; that a Budget deficit on current account is the best means to full employment; and that "a correct Keynesian policy should regenerate free competition and re-establish capitalism on renewed foundations."

Professor Polanyi's exposition begins by showing the reader the flow of monetary circulation, which he calls the money belt. If this belt is too narrow, only part of the productive forces are activated by it; if it is too wide, we get inflation. The belt is narrowed by saving, which is visualised as setting aside sums of money which are kept back from circulation. But this "sucking" effect can be offset by "squirting": "so long as the money which is removed day by day from circulation, through the process of saving, is balanced by the sums which are continuously flowing into new business investments, the width of the money belt will remain unchanged." Since the amounts of sucking and squirting are governed by independent decisions, there is no reason why they should balance, but if they differ, the difference brings about a change in the national income, which in turn alters the rate of sucking until it becomes equal to that of the squirting. This adjustment comes about rapidly, but the idea of a necessary identity between savings and investment "is very misleading and should be strictly avoided."

In exposition it is often well to begin with rough ideas which are made more exact as the argument develops; but to my mind it is dangerous to set out here without the balance sheets of social accounting, which alone give us a clear view of the stock and flow of money on the one hand, and the components of income, as accounting magnitudes, on the other. In Professor Polanyi's approach the problem appears, and remains, as "a gap in the money circle." It seems to be his view that if enough money is provided to meet the demand of the public for money to hold, a sufficient total flow of purchases will follow: "gradually, as the cash balances of the public in general approach a final level, the Rate of Saving will fall to the point at which it no more exceeds current Investment." Thus a given excess of the propensity to save can be neutralised once for all by a sufficient increase in the stock of money. He does not seem to envisage the possibility of this being done—*e.g.*, by a public investment

policy financed by borrowing—without any addition to the stock of money. Again, if the aim is simply to maintain the total circulation, it does not appear why there should be any special virtue in investment. Professor Polanyi's answer is that squirting is "a process taking money into circulation without being linked to any process which removes it again"; new private investment, or a budget deficit, will do this; but "the day-to-day buying of consumer goods in the market does not fall under the description of squirting because such buying is linked to the receipt of income by the consumers, which takes the money from circulation again." I have not been able to follow this.

The practical policy which Professor Polanyi advocates springs from his monetary analysis, but also brings in an independent principle. A budget deficit has the same effect as new investment, because "at the first stage of deficit spending the full sum of the 'loan' is issued as new money," and subsequent funding has only a minor effect, by its decreasing the liquidity of banks or the public, in reducing spending. But more than this, a budget deficit commends itself above all measures designed to reduce saving or stimulate investment, because, unlike them, it does not offend against the principle of neutrality. This principle requires that action to get full employment shall be taken only "in a way requiring no materially significant economic or social action to accompany it"—that is, it must not disturb the working of reasonable individual and collective decisions in the free market. "When in 1937 President Roosevelt imposed a special tax on undistributed profits, or when in 1944 Sir John Anderson in his Budget Speech denied tax relief to profits while promising a remission of 20% for funds reinvested into new equipment, these measures were based on no other than monetary considerations. No attempt was made to deny that they would impel business men to conduct their affairs in a way which would otherwise be considered imprudent and ill-advised." Further, "if you require a Budget Deficit, why go to the trouble of creating new items of expenditure on which to spend it; and why spend only on 'constructional' and not on 'current' items?" Yet on Professor Polanyi's own principle it might seem that if the public want to save more, it is right to get the real assets constructed by which their choice can be implemented.

This principle of neutrality goes with a distrust of economic planning, the case against which forms the third constituent of this essay. The thought that here we have a chance, and maybe our last chance, to get rid of those ills that otherwise will drive

us into the arbitrariness and inefficiency of planning, infuses all the essay with a sense of urgency.

There is much more in this book than has been mentioned in a notice devoted to what seems most distinctive in it. Professor Polanyi's pen moves briskly, his argument is fresh and pointed, his every page breathes zeal. These qualities make me the more sorry that his analysis seems to me inadequate.

E. H. PHELPS BROWN

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Economic Reconstruction. Edited by SEYMOUR E. HARRIS. (New York: McGraw-Hill Book Company, Inc., 1945. Pp. xii + 424. $3.75.)

THIS comprehensive survey of the American outlook in 1944 is based on lectures delivered in that year at the Graduate School of Public Administration in Harvard by economists all of whom were then or recently engaged in Government service. Professor Harris has arranged the topics so that they cover both the nearer problems of demobilisation, and the longer-run problems of full employment, international trade, and social security. The usefulness of these papers is enhanced by their being so fully furnished with statistical records and estimates, especially for those economically significant categories which can be dealt with only by special inquiry: it is remarkable how much research has been done amid all the claims of current administration. For the reader overseas, the outcome is a book to which he can refer for fact, estimate, and opinion, on the salient present problems of the American economy.

When these papers were written much was still unknown about how the war would end, but the problems that V.E. day would bring were already clear. "The war," said Professor Haber, "consumes about 60% of our national income, not 20 to 25% as in 1919. . . . Including those in the armed forces, over 50% of our labor force is producing for war." "As we enter the first stages of demobilization, we have munitions employment of about 9 million workers, armed forces totalling over 12 million, a total labor force expanded beyond normal by about 7 million, an occupational pattern distorted by concentration in munitions work, and at least 3 million workers who moved to a new state during the war." The ending of war outlay would reduce Federal spending by $75 billion. So far there are evident possibilities

of stoppage and deflation; but Professor Ellis points out that the public's holding of money has increased twofold, and of liquid assets nearly threefold, since 1939, while central bank control is weakened by the commercial banks holding over $70 billion in Government securities which are mostly early maturities. Dr. Ezekiel seems to express the general view when he wrote that " no economist can say positively whether the greater probability after the war is an extreme inflation or an extreme deflation." If it is inflation that threatens, however, Professor Wallace believed that price control can still hold the line: " it has been demonstrated," he wrote, with regard to OPA, " that prices can be successfully stabilized in the face of an enormous inflationary potential, without harm to production and without undue hardship."

When we turn to the longer run, there are two questions especially on which, with a now poignant interest, we want to hear the views of American economists: full employment, and international trade. On the latter, what we get here is the universal plan of Bretton Woods, without much attention to distinctive functions of the United States. Professor Haberler asks how a country following a full-employment policy can meet deflationary influences from without, and considers that " international monetary co-operation should, and through credit extension always could, make reserves large enough to achieve that end "; failing which, he thinks orderly devaluation better than controls. Professor Upgren, having emphasised the great scope there is for international lending, argues that American lending can best be done, not privately nor under U.S. Government guarantee, but through the International Bank. On tariffs, Professor Haberler remarks that " quotas and exchange control are much more disturbing elements in the price mechanism of a capitalist economy than duties." " When American industry and public opinion become ready to apply the elementary principles of trade, important circles in Great Britain seem to have all but forgotten them." Yet it is agreed that the volume, and the freedom, of international trade will depend largely on the success of the United States in maintaining a high and stable level of employment.

Full employment, indeed, is the dominating problem of this volume. " The war experience," says Professor Hansen, " has, I think, left all of us more or less stunned with the magnitude of the employment problem." That production for civilian use should in the aggregate have been maintained through the war

has made it clear how much under-employment there was before; and meanwhile population and productivity both go on growing. The outcome is, in Dr. Mosak's estimate, that "in 1950 the nation will be able to produce a gross national product of about $200 billion in 1944 prices under 'full' employment conditions and 1939 average hours worked per week." Now, if past relations persist, consumption will not be more than $113 to $129 billion out of that total; normal Governmental expenditure would not be more than $25 billion; "private capital formation will, therefore, have to average between $46 and $62 billion or between 2½ and 3 times the 1941 peak level in order to maintain full employment." The measures proposed to solve this problem are of the kind familiar in English-speaking discussion. If their treatment in this book seems less emphatic than that of the problem itself, perhaps that is because these papers have been written under a constant and sometimes wistful sense of what is politically practicable. "We shall be facing a task," wrote Professor Clark, "for which there are no obvious and simple models: namely, to return to, and maintain, a system of private enterprise with the added requirement that it must furnish ample and reasonably stable employment or else expect powerful public intervention directed to that end. It is private enterprise, affected with a novel public interest which it has not yet demonstrated its ability to assimilate."

E. H. Phelps Brown

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Sixty Million Jobs. By Henry Wallace. (New York: Simon and Schuster, 1945. Pp. 83. $1.00; jointly with Reynal and Hitchcock in cloth. Pp. 224. $2.00.)

It is one measure of the difference between the United States and Great Britain that this book should have been written by the Vice-President of one Administration and the Secretary of Commerce in the next. Mr. Wallace's purpose is to persuade and convince—to persuade the American public that full employment is a practicable ideal, and to convince them that without it their plans and schemes for a better America after the war will be brought to nothing. That statesmen should stump the country in support of the cause of their choice will not surprise the British observer; but readers of this Journal have not been accustomed to see Ministers of the Crown as the authors

of economic textbooks designed for wide popular sale. Mr. Wallace gives us an excellent summary of the volume and distribution of employment and the course of income and expenditure in the U.S.A., derived from official statistics of the past and the projections into the future which have appeared in the American journals, recently collected by the National Planning Association in their report on "National Budgets for Full Employment." His particular contribution lies in the clarity with which he brings out the implications of these statistics. No American with a dollar to spend, after studying this book, will fail to be vividly aware of the extent to which his hopes for the future, nourished (and inflamed perhaps) by the well-publicised but none the less immense achievements of American industry during the war, depend on the realisation during the next few years of continuous full employment. The goal, an occupied population of 60 millions all in work and a gross national output, once reconversion is complete, of $200 thousand millions may seem ambitious to British readers—but these estimates are supported by the considered opinion of competent U.S. statisticians.

Mr. Wallace presents his case as a plan for freedom, as a means of reaching full employment within the framework of the capitalistic free-enterprise system. Although a strong, almost fervent believer in private enterprise, particularly small business, he is certainly not blind to the fact that free enterprise can only be kept free in conditions of prosperity, racial toleration and peace. He quotes Alexander Hamilton, the late President Roosevelt, and Governor Dewey in support of his conclusion that the Government can no more avoid responsibility for the maintenance of full employment than it could neglect its obligations to maintain the peace, and makes the illuminating suggestion (illuminating at least on the other side of the Atlantic!) that it is the Government's part to provide the ounce of stimulus which produces a pound of private initiative and enterprise. He sees all around new frontiers of endeavour capable of lending buoyancy to the American national income. There is the pent-up demand for consumer goods which could not be satisfied during the war; there is housing—it will no doubt surprise British readers to learn that half the homes of the United States are below the minimum standards—there is the demand for hospitals and public health services; the possibility of immense development projects such as the TVA, land conservation, rural electrification and so on; and the opportunities for enterprise presented by technical advances, the result of Government-aided pro-

grammes of industrial research similar to those undertaken during the war. There is, in addition, the whole of the South waiting to be brought up to the standards current in the North-Eastern States and the West, and the overseas market. He observes that "the industrial revolution as yet has brought few benefits, if any, to the great bulk of two billion people in the world," and he is particularly impressed at the trade which could be done with India and China. "With adequate agricultural and industrial development, the vast population of this region can become one of the greatest producing and consuming markets of the world." There is obviously no danger of the present U.S. Secretary of Commerce falling victim of the fallacy that two industrial countries cannot trade but to the disadvantage of one!

Economists will be most interested in the chapters on the national budget, the comparison of national income and expenditure. These are the best in the book, and contain a remarkably lucid account of that somewhat intricate subject, the relation between output, employment, income and expenditure. In common with all of his countrymen, Mr. Wallace has an abiding faith in publicity. Show the people what is required, and they will do it. The national budget, submitted to Congress and periodically overhauled—a quarterly restatement is suggested—will indicate whether consumers and business can be expected to spend and invest, in the period considered, enough to maintain full employment. If not, the President must suggest and Congress approve, the measures necessary to make up the deficit. The Murray Full Employment Bill, now before Congress, makes the same proposal—provision for a national budget to be presented to the Congress is its principal positive contribution. Mr. Wallace does not provide any fundamentally new weapon for the armoury of government. He relies upon private enterprise, stimulated by credit expansion and tax remissions, and fortified by public works when necessary. The list may appear a little thin to British eyes—but the reader should remember that Mr. Wallace's prime purpose is to win support for the principle of a plan for full employment rather than to produce the detailed scheme itself. That will become the business of the President and Congress (assisted by their advisers) after the main decision has been taken.

Mr. Wallace is undoubtedly optimistic about the economic future of U.S.A. He points out that income has been doubled twice since 1890, and confidently predicts a rise even above the rate of $200 billion. Some of us, noticing the actual distribution

of the $100 million GNP in 1929 (market prices), $71 billion consumed, $18 billion invested and $11 billion of public expenditure, will wonder (enviously no doubt) how even 130 million United States citizens can spend on themselves, at 1944 prices, $135 billion and more; and invest annually not less than $30 billion, supported by a budget national and local of at least $35 billion. Compared with the condition of the poor European, and with that of his even less fortunate Eastern neighbour, still struggling with the problem of satisfying the elementary need for food, clothing and houseroom, the $200 billion income, when it is achieved and maintained, will be economic progress with a vengeance; and it may have repercussions upon conventional standards of economic conduct no less far-reaching than the effect of the atomic bomb upon the ordinary man's ideas of matter and energy. Were it not, indeed, for Mr. Wallace's obvious sympathy with the poor of all lands, and his inspiring last chapter on the fuller life for all, the reviewer, with the contemporary American scene fresh in his mind, had, for the moment, almost imagined himself on the threshold of some Huxleiean "Brave New World."

GILBERT WALKER

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Mobilising for Abundance. By ROBERT R. NATHAN. (New York: McGraw-Hill, 1944. Pp. xviii + 230. $2.00.)

THIS is an important book in the United States. Dr. Nathan, after holding a number of posts in OPM and WPB, was last year appointed Deputy Director of the Office of War Mobilisation and Reconversion, with the present Secretary of the United States Treasury as Director. The book has been referred to as "the New Deal bible." Its subject is full employment in a free society.

The differences between this book and that of Sir William Beveridge on the same subject express as much a contrast in the outlook and state of mind of two countries as the distinctive views of two authors. Sir William Beveridge set out to supply the answer to a problem whose nature was already well known in outline and which his public was determined should be overcome. Dr. Nathan has first to argue that an attack on unemployment can and should be made.

The difference goes deeper. Sir William's proviso that em-

ployment policy must not go against the grain of a free society implied, as he put it, that all essential citizen liberties must be preserved. But the liberty to own property was specifically excluded from his list of essentials. Sir William himself believed that full employment was attainable while leaving the conduct of industry in the main to private enterprise. But his policy included an expansion of the sector of industry under direct public control, and "if . . . it should be shown by experience and by argument that abolition of private property in the means of production was necessary for full employment, this abolition would have to be undertaken." Dr. Nathan, both from strategy and personal conviction, is far from such a radical position. He believes in private enterprise himself; but more than that, he is extremely careful not to offend his readers on this point by even remotely suggesting that full employment without substantial State activity may not be possible. He takes the greater part of a chapter to get his readers to the point of accepting that not all Government rules and regulations are inherently antagonistic to private enterprise. And the point with which he would clinch the argument for his employment policy involving Government action is that "the greatest incentive to business is a large market, and if broad fiscal and social measures of the Government are effective in making for full employment and high purchasing power, this will be the greatest possible single boon to business" (pp. 52–3).

The result is that, whilst the magnitude of the task before the American economy is plainly stated, the effect is largely lost because of Dr. Nathan's anxiety not to frighten his readers and because of the atmosphere of simplicity and easy optimism which he therefore tends to create. Despite the support of figures, the policies put forward are very much less precise than those in our own Government's White Paper, Cmd. 6527. There is little discussion of the problems of how the policies proposed are to be put into operation, and even less of the problems that would be thrown up if their objective were to be realised. The discussion of national debt is weak. The problem of the rate of interest is dismissed in the single sentence that "if excess savings continue to prevail in the United States after the war in the same degree as before the war, we can anticipate a continued decline in interest rates" (p. 200). Nowhere is there any discussion of the serious problems of wages and price policy that were a conspicuous part of both the White Paper and Sir William Beveridge's book. The international implications of employment

policy do not get much beyond the statement that " our objective should point toward greatly increased bilateral trade " (p. 173).

This book is primarily for popular home consumption. It is a work of evangelism to get the American public to accept a Government-sponsored employment policy. Only the foreigner, acutely aware of the importance of full employment in the United States to the prosperity of the rest of the world, will concentrate on the snags.

Dr. Nathan's method of exposition is the now familiar one of estimating the national income or product at a given level of prices which would result from a full employment of labour resources, and then of considering how the various categories of expenditure can be made to add up to that total, bearing in mind in particular the low marginal propensity to consume.

Dr. Nathan begins, as do a number of other American economists, with an estimate of $150 billions as the annual gross national product, at 1943 prices, which would provide job opportunities for almost all able persons seeking work, given a forty-hour week. If the pre-war relationship of consumption to income continued to prevail, $120 billions would then be spent on consumption, and $30 billions saved by individuals and business enterprises. In Dr. Nathan's view, there is not the ghost of a chance of anywhere near $30 billions of offsets to savings being found through private channels, *year after year.* Apart from monopolistic tendencies which have the effect of slowing down private investment, there is the dependence of investment upon the rate of increase in consumption demand, which, Dr. Nathan holds, puts a fairly early check upon private investment expenditure. With high total output and vigorous competition, the United States might be able to spend $10 billions a year in industrial channels for new and replacement purposes, the same as just before 1929. But it could not exceed this very much without sowing the seeds of another depression (p. 113). There is room for a good deal of expansion in the purchases of consumers' durable goods, and, to a considerable degree, the future prosperity of America will depend on this happening. But much of this expenditure will require instalment credit, and expansion in this class of finance must depend on the general expansion in consumers' incomes. Dr. Nathan estimates that private offsets to savings might altogether average $15 billions a year. If there is no change in saving habits, gross national product would not then be more than $100 billions, which is less on average than in the late 1930's.

Dr. Nathan looks in the first place to Government action that will affect personal consumption as the means of making up the balance. The book contains separate chapters on reform of the tax system and on a programme of social security, both proposals designed to effect a redistribution of income and a reduction in the savings–income ratio. Dr. Nathan hastens to point out, however, that his aim is that a larger share of a larger income should go to the poorer classes, not that there should be a redistribution of income as such. Similarly, he tries to hold on to "less eligibility" as setting a ceiling to his social security programme.

Nevertheless, Dr. Nathan does not seem very optimistic that proposals of this kind will receive much favour; and once having set them forth, he concentrates for the remainder of his book on finding means of filling the $15 billions gap without these measures of domestic reform. The possible sources are exports and Government spending; and Dr. Nathan, like a good many other Americans, concentrates his hopes principally upon increased exports. Government spending he regards only as a residual economic control when there is no alternative: it is "the ace in the hole."

It is Dr. Nathan's opinion that the United States should set up an immediate post-war goal of large exports of goods and services relative to imports. The distinctive point in his views, however, is that he does not believe that private finance will be able to meet the problem. In this respect he differs, for instance, from the U.S. Department of Commerce report on *The United States in the World Economy*. An export balance of $10 billions a year, which is what would be required if reliance were placed on exports alone, is not held to be feasible. But a balance of $5 billions a year, Dr. Nathan considers a practicable and necessary target. To this end, the United States will have to contemplate ultimate reduction of tariffs and increased imports, but a sudden sharp increase in imports of goods which compete with American products would cause too serious dislocations to be entertained. It follows that funds will have to be provided directly to finance the purchase abroad of American goods. And, whilst there can be some private-loan financing, it is Dr. Nathan's belief that export balances will have increasingly to be financed through Government channels, either by direct Government loans or by the Government underwriting private-loan activity. Dr. Nathan recognises that these investments would have to be of a long-term nature, and he recommends a Government corporation

which could make direct loans abroad for the purpose. But its principles of operation are notable: "reasonably definite goals should be established for each country, based on soundness, needs, competitive relations, and prospects of exports to the United States" (p. 177). The expansion would be on a bilateral basis.

Dr. Nathan's book includes nine cartoon-diagrams, with captions, to emphasise his points. Both in its thought and in the way that thought is presented, the book has much of interest to the non-American reader.

R. C. TRESS

London.

Post-War Monetary Plans and Other Essays. By JOHN H. WILLIAMS. (New York: Alfred A. Knopf, 1944. Pp. xxxii + 297 + viii. $2.50.)

America's Rôle in the World Economy. By ALVIN H. HANSEN. (New York: W. W. Norton, and London: Allen and Unwin, 1945. Pp. 197. $2.50 and 8*s.* 6*d.*)

PROFESSOR WILLIAMS has collected in his *Post-War Monetary Plans* a number of papers written between 1929 and 1944 and published in various journals, except the first which relates to the joint Monetary Plan that was agreed by the British and American experts and was the precursor of Bretton Woods.

The book is divided into three parts, of which the first contains three papers dealing with the Keynes and White Plans. Part II is concerned with problems of domestic fiscal and monetary policy that were exercising American public opinion during the great slump. Finally, Part III contains a number of earlier essays dealing with international trade and monetary questions. The essays are printed without change, and reflect the evolution of Professor Williams's thought on the questions at issue. Taken as a whole and individually, they are very well worth reading.

In general, the author maintains a mildly sceptical and critical attitude towards the much-advertised panaceas for maintaining full employment—*e.g.*, by deficit spending, or for solving international monetary difficulties by currency stabilisation plans. He tends to stress a number of the difficulties and dangers inherent in such proposals, and thus provides a wholesome corrective for those who imagine that economists have now provided the politicians with an infallible technique for overcoming all the disorders to which the economic system has fallen a victim in the past.

For the British reader the most directly interesting part of the book consists of the essays dealing with the post-war monetary plans. Unfortunately the volume was completed for publication just before the Bretton Woods Agreement was concluded, but we know Professor Williams's views on this from an Address which he delivered to the American Academy of Political Science in April 1945.

Broadly speaking, his position throughout has been one of a guarded and qualified approval of the general scheme for establishing an international monetary stabilisation fund, while emphasising the importance of recognising that its usefulness will be narrowly restricted by other provisions and adjustments, especially in the field of foreign trade. One major preoccupation with Professor Williams has been the weak position in which England would find herself at the end of the war, and this has led him to favour the "key currencies approach," the whole situation from this angle being dominated by the dollar-sterling relationship. In the latest of his essays—the Address referred to above—he went so far as to advocate the postponement of the Bretton Woods Agreement until special measures had been taken to solve the British problem. The new Loan Agreement negotiated with the United States, if ratified by Congress, will, it is to be hoped, meet this particular point and give England the necessary breathing-space to reorganise her international trading and financial system on a multilateral basis.

Finally, with regard to the working of an international monetary plan, there is an important passage in the Academy of Political Science Address which sums up a contention of Professor Williams which is put forward repeatedly in the earlier Essays reprinted in this volume; it represents an American approach to which due attention should be paid in this country:

> "One thing that has troubled me during the entire course of the discussions has been the reiterated insistence by the British that the responsibility for international trade adjustment rests on the creditor country. I cannot avoid the conclusion that, taken against the background of this British discussion, the fact that the negotiations with regard to principles of adjustment resulted finally in the removal from the document [sc. the British–American Experts' Plan] of all references to two-sided adjustments, and the high-lighting of the one case of a possible dollar shortage means quite specifically that if we do not prevent a dollar shortage that fact will be taken to mean we have not discharged our responsibility, and have therefore given the rest of the world *carte blanche* to resume exchange control and trade discrimination as before. It is not that I wish to run away from this responsibility. It is only that I think it will not work unless there is a clear understanding that the responsibility must be shared. There is no action which a surplus country might take which does not have its

counterpart for the deficit countries, whether it be in the sphere of price changes, trade changes, foreign investment, or any other method of adjustment that might be explored. Recognition of this fact is the only reasonable basis on which to proceed."

The only comment on this for which there is space here is that there is one type of adjustment which a deficit country should *not* be required to make—namely, a deflation of its price and income structure leading to general depression and unemployment.

If Professor Williams's book is intended for the professional economist, Professor Hansen's has been written for the intelligent layman. It is an excellent piece of popular exposition, which seeks to emphasise, to quote from the author's foreword, "the fact that world prosperity and world stability depend in no small measure upon (*a*) the achievement of full employment within the United States, and (*b*) the action and wholehearted co-operation of the United States in the formation and development of international economic organisations designed to ensure the workability of a new world order." Professor Hansen describes lucidly the schemes which were approved at Bretton Woods, and discusses one by one the principal criticisms that have been levied in America against the plan for an International Monetary Fund. While regarding the criticisms as invalid, he stresses the need for an International Trade Authority and an International Commodity Organisation. He is addressing above all his own fellow-countrymen, and it is to be hoped that his words will fall on receptive ears in the United States. But the exposition is so clear and helpful that the book can be warmly recommended also to the many people in this country who would like to know about these important matters but have the impression that the subject is too technical and difficult for any but the expert.

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Economic Fluctuations in the United States. By EDWIN FRICKEY. (Harvard University Press (Oxford University Press), 1942. Pp. xxi + 375. 28*s*.)

THIS book presents the results of a systematic and painstaking analysis of economic time series in the United States, covering the period between the end of the Civil War and the beginning of the first World War. The main object of the work

is the separation and measurement of long-run trends and short-term cycles in a selected group of series. Its aim is therefore limited, but the findings, which rest on carefully and solidly constructed foundations, are sufficiently important to make the work invaluable for future investigations on American business cycles.

The author adopts a different strategy from that usually employed in the analysis of time series. He proceeds by what he calls "the *genetic* method—*ab initio*—setting aside all preconceptions. Our aim should be so to perform the analysis as to lead to complete conviction in the end that the results portray only relationships inherent in the original figures; ground must not be left for the suspicion that these results even *might have been* in whole or in part created by some process of adjustment or manipulation" (p. 9, author's italics). Methods of estimating secular trend by means of mathematical curve fitting, moving averages and other smoothing devices are accordingly rejected. That such methods can sometimes yield a variety of contradictory results is clearly demonstrated by the example of pig-iron production. In this case twenty-three trends mathematically fitted by different investigators reveal average cycles about the trend varying fairly continuously from four to forty years; the results of applying moving averages to the same data are also shown to vary, depending on the length of period chosen. Professor Frickey's own method, *per contra*, shows that, over the period considered (1866–1914), the secular trend of pig-iron production must be represented either by a logarithmic parabola, or by something very similar.

Thirteen economic time series are first selected for analysis, from among those which are considered important, which are readily obtainable and which are not "inflexible or erratic." The selected series relate to bank clearings, railroad earnings, imports, exports, immigration, railroad stock prices, industrial stock prices, sensitive commodity prices, wholesale prices, commercial paper rates, New York bank loans and bond prices (the last two inverted). A lengthy analysis establishes that relative changes are more significant than absolute changes, a conclusion which could have been reached more shortly. After elimination of seasonal variations, the series are expressed in the form of "link-relatives," showing the relative changes from each date to the next. Why this particular form of presentation is chosen, in place of the more usual form of expression in terms of index-numbers with a fixed base, is not explained, except that it is

said to be simpler. In fact, it does not seem to add anything, and makes the subsequent comparison with other series more complicated. Taking the quarterly data first, each series is adjusted for " long-time drifts " (the word trend being eschewed at this stage, so as to avoid any suggestion of question-begging) by expressing the link-relatives in terms of deviations from the average link-relative for each series, thus, in effect, eliminating the average rate of change. Further adjustments are made for differences in the average amplitude of fluctuation, and for lags. The thirteen series, after these adjustments have been made, show, with a few exceptions, a high degree of correspondence. A " standard pattern," which describes the short-term fluctuations common to most of the series, is then constructed. The author's claim that the standard pattern " could not possibly, in any essential respect, have been created by the methodology " (p. 129) is well substantiated.

In an attempt to discover whether any new patterns emerge as the period to which the data relate is gradually lengthened, the same procedure is successively applied to the quarterly and annual data, and to the data arranged in averages of two, three, six and nine years. In this section it was perhaps unnecessary each time to repeat every stage of the analysis. There could be no objection, for instance, to using the results of investigating the quarterly data for lags in the subsequent analysis of longer periods. Another minor point is that the possibility of determining lags in fractions of a year from annual data is apparently overlooked.

The conclusion of this section of the work is that no persistent pattern is discernible apart from that already derived from the quarterly data, while the six-year and, especially, the nine-year analysis reveal " evidence of some underlying disjoining influence," reducing the intercorrelation of the thirteen series. The conclusion indicates, and subsequent analysis confirms, that the trends have not been completely eliminated by the simple adjustment for " long-time drifts." While no new pattern of fluctuation is discovered, the analysis by periods of six and nine years, and particularly the evidence of Charts 9B and 10C, indicate the presence of regular fluctuations covering a period of several years. The author makes no attempt to investigate the form of these fluctuations, or to distinguish, in the standard pattern, variations having different periodicities.

In the next section supplementary data are considered, relating to industrial and agricultural production, transportation, trade

and employment. The presentation of new indices of manufacturing production, transportation and communication, and of these two combined into a general index of production, for the period 1860–1914, as well as of a new index of employment, constitute not the least valuable part of Professor Frickey's work. Apart from agriculture, the additional series, after adjustments for differences in amplitude of fluctuation, long-run tendencies and lags, show very close conformity to the standard pattern of short-run fluctuations, previously obtained. The results of these investigations "clearly indicate that for the United States over the pre-war period 1866–1914 a well-defined pattern of short-time fluctuation is generally pervasive throughout the structure of the nation's industrial and commercial life" (p. 167).

Before proceeding to the decomposition of the time series, the author succeeds in demonstrating, by means of graphic analysis, that as "a good first approximation to the truth" the variations in the main series, apart from seasonal and irregular fluctuations, are resolvable into secular trends and cyclical fluctuations; and that the relationship between these two types of variations is that of being logarithmically additive. To this he adds the comment that "there is, of course, nothing essentially new about the proposition itself. . . . The claim to novelty . . . rests not upon *statement* of the proposition but upon *demonstration* of it for an important range of data" (p. 253).

The problem of separating secular trend and cyclical variations is then attacked by two independent methods, in both of which the usual procedure is reversed, cyclical fluctuations being first eliminated from the original series and the trends obtained from the residuals. In the first method, a particular series—the production index—is selected as having a relatively simple form of trend and, when this is eliminated, the resulting index of cyclical fluctuations is used to precipitate "trend-indications" for other series which were found to have similar short-term fluctuations. The second method depends on analogous use being made of the "standard pattern" of short-term fluctuations, from which any remaining elements of trend first have to be eliminated. This is done by applying the standard pattern to the original series, obtaining tentative trend lines, using deviations from the trend lines to construct a revised standard pattern and repeating this process until all elements of secular trend have been virtually eliminated. The cyclical variations in the final revision of the standard pattern are eliminated from the individual series and, after dividing the time interval, where necessary, into sub-periods,

lines representing secular trends are fitted to the residuals. The two methods, both of which depend on the close correspondence which was revealed in the short-term fluctuations of the different series, give practically identical results. While the author recognises that, in fitting trend lines to time series, discretionary judgment inevitably enters at some stage, he may fairly claim that "the need for the exercise of discretionary judgment is here reduced until it becomes almost a negligible factor in the fitting" (p. 340). It should be added that numerous cross-checks are provided at nearly every stage of the analysis.

This is no more than a bald summary of Professor Frickey's method, and hardly does justice to the breadth and originality, or to the many interesting side-lights, of his work. Disappointment may be felt that the analysis was not carried farther, and criticisms are possible on minor points which do not, however, affect the essentials of the method. The author's scrupulous desire to avoid the introduction of any semblance of bias, though certainly appropriate in the development of a new method, seems, here and there, to have been carried to excess. Again, the statement that, in curve fitting, "in many instances the criterion 'absolute sum of the deviations a minimum' is superior" to the method of least squares (p. 32) does not appear to be substantiated. In the analysis of long-run tendencies the author makes use of what he calls "a new mathematical technique" (p. 294), involving the study of first and second differences, which are shown to have similar fluctuations, but with different timing. He makes play with the well-known fact that the sine curve possesses a similar property, but fails to observe that the same property is possessed by any curve having wave-like fluctuations, which are commonly found in economic time series. It is surprising, also, that the original material is very seldom presented, except in graphical form, so that the reader who desires to make additional calculations is handicapped.

The method has, of course, its own limitations, and evidently cannot be applied to any case, such as agriculture, which does not conform to the standard pattern. Wisely, the author gives an emphatic warning that "the method is not, of course, intended to be employed blindly or mechanically" (p. 129), and concludes by remarking that his "great misgiving in presenting this study is that there may somehow be supposed to be such a thing as the 'Frickey method' for analysing time series, capable of being applied automatically and universally" (p. 342). How widely it can be applied remains to be seen. But, limitations notwith-

standing, Professor Frickey has developed a powerful technique which is capable, as he shows, of producing some striking results. The work is written in a style which, though somewhat repetitive, is a model of lucidity.

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Le Développement de la Pensée Economique. By BERTRAND NOGARO. (L'Économie Politique Contemporaine : Vol. XXII. Paris : Librairie Générale de Droit et de Jurisprudence, 1944. Pp. 345.)

A BOOK on the history of economic thought may have three distinct aims. The first and foremost is to give a clear and comprehensive picture of the theories expounded in the past; the second is more ambitious: it consists in a critical comparison of those theories with the state of knowledge reached to-day, and in a judgment of their lasting value according to modern standards; the third is possibly more ambitious still: it is an attempt to see the economics of yesterday within the framework of contemporary life, and to understand it as an expression and reflection of the period which it endeavoured to study. As the two latter types of approach are mutually exclusive—every author must decide whether the truths of economic theory are absolute and timeless, or relative—we can classify the works on the subject by allotting them to the one or to the other type.

Prof. Nogaro's treatise is entirely and consistently critical: he makes no attempt to explain why the thought of the past has developed along lines characteristically different from our own. In fact, the present book must be understood as a sequel to the author's two-volume *Cours d'Économie Politique.* There Prof. Nogaro set forth what, in his opinion, is the truth: here he looks for his predecessors, and he is pleased when he finds them. This unhistorical attitude is somewhat surprising in a writer who confesses to being a disciple of the historical school, and who is continually fighting against the deductive method because it forgets the reality which lies behind economic theory and which should govern economic thought. Surely, one of the fundamental theses of the historical movement was the contention that the development of economics is, not a progress from error to truth, but a change of opinion motivated by the change of the underlying factual conditions.

The point of view from which Prof. Nogaro surveys the past is best seen in his final judgment of Menger and Walras. Menger's principal merit, he says, is his insistence on the fact that the prices of the factors of production depend upon, and vary with, the prices of the finished goods, that they are not more than "transitory." But, he adds in a very characteristic footnote, this connection between the market of the factors of production and that of finished goods, was already known to Jean Baptiste Say and clearly indicated by him. Walras may be said to have first correctly formulated the law of offer and demand. Yet, Nogaro explains, if this is true, Cherbuliez's prior claims to our admiration should not be forgotten. Thus he tends to deny or to diminish the originality of Menger and Walras, and he characterises their theories by the same phrase: he calls them "pedantic retrogressions" because of their irrealistic and purely deductive nature and method (pp. 234 and 265).

This seems a very stern judgment; many will think it iconoclastic and even herostratic. It must, however, be pointed out that Prof. Nogaro's criticism of the Vienna and Lausanne systems is able and telling. Unlike former disciples of the historical school, he meets his opponents on their own ground and endeavours to beat them by their own weapons. He exposes the weak links in their logic, and what he says shows a splendid mastery of the subject, and admirable critical acumen.

A point which cannot fail to challenge the reader's opposition, is the curious limitation of the field which Prof. Nogaro has imposed upon himself. Gossen is only mentioned in a footnote (incidentally, he called himself Hermann, not Heinrich, and it may please a Frenchman to hear that, at least as a young man, he preferred the French form Armand); Jevons, apart from incidental references, is allotted no more than three lines. Marx is excluded altogether, because, as a note tells us, the book is not concerned with "doctrinaire tendencies." But this is a poor argument. Whatever one may think of his final conclusions, Marx's theoretical work was inspired by a pure desire of knowledge, and it is impossible to label him "unscientific" and put him out of doors. Still, even this may pass. But it is impossible to condone the exclusion of Malthus and of Thuenen. The omission of Malthus is explained as a result of the desire to concentrate on the fundamental texts; but if Malthus's book is not fundamental, it is difficult to see which is. In fact, Nogaro's exposition of the wage theories of Ricardo and Mill suffers seriously because the tendency, analysed by Malthus, of the

supply of hands continually to outstrip the demand for labour, is not discussed. Malthus's *Principle of Population* is simply part and parcel of Ricardo's thought, and of the system of Mill, and to disregard it is a sin which can hardly be forgiven. Thuenen shares one single sentence with Rau and Hermann. His importance could perhaps be doubted, but hardly by Prof. Nogaro, who gives much space to the discussion of ideas, admittedly due to the genius of Thuenen, when he speaks of John Bates Clark and Alfred Marshall. The work would gain a great deal, if at least these two gaps could be closed in later editions.

The book is, on the whole, very good reading. The essential points are always securely grasped and clearly set forth, and there is much conscientious documentation, for which even the advanced student must be grateful. I trust, however, that the author will not be angry with me if I express the confident hope that the word "équilibrisme," which he has coined to describe the school of Lausanne, will not become general usage. I suppose it is too late to protest against the word "marginalisme"; but if we have to retain it, it is certainly the limit of the endurable.

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Housing and the State. By MARIAN BOWLEY. (London: Allen and Unwin, 1945. Pp. viii + 283. 15*s.*)

Building and Planning. By G. D. H. COLE. (London: Cassell, 1945. Pp. 287. 10*s.* 6*d.*)

DR. BOWLEY divides inter-war house-building experience into three parts: 1919–23, associated with the name of Dr. Addison; 1923–33/4, when three successive Ministers of Health were in control, Mr. Neville Chamberlain, Mr. Wheatley and Mr. Greenwood; and 1934–39, following Mr. Greenwood's introduction of a new type of slum-clearance subsidy, related not to houses, but to the number of persons displaced and rehoused.

Justification for this changed line of attack is found in a table summarising certain facts as to houses built in England and Wales between January 1, 1919 and September 30, 1934. Out of a total of nearly 2½ millions, less than one-third were built by local authorities; and even out of approximately 1¾ million built by private enterprise, only about one-quarter were subsidised. An analysis by counties shows further that, in the period 1921–31, not only were the rates of supply of new houses by private enterprise much higher on the whole than local

authority rates, but they were usually highest where the need for houses was great, which was not true of local authority rates. Dr. Bowley brings out, too, the important fact that it was the development of the building society system which made possible the large volume of building by private enterprise, replacing as it did the local market for mortgages by a national market dependent on indirect investment.

It must not be inferred that only private enterprise is capable of solving the housing problem; nor can it be assumed that the houses thus built were in general such as the poor could afford. There is, indeed, ample scope for fresh experiment in public building. But among the lessons to be learnt from past experience is the need for a clearly defined policy consistently pursued. Too frequent and sudden changes are the price paid for party government. Another and possibly greater weakness in the past has been the granting of State subsidies without ensuring any control over the use—and price—of building materials and labour. To attempt to solve the problem of control by sharing it between three Ministries, those responsible for Works and Buildings and Town and County Planning, in addition to the Ministry of Health, is only to create worse confusion. Few things are more essential than to get a co-ordinated plan, approved by all three Ministries and by other closely concerned Government departments such as the Board of Trade and the Ministry of Labour.

Mr. Cole's book, as the title indicates, covers a wider field. He discusses not only houses, but factories, schools, community centres and all other types of building; and he relates the problem to the present and future distribution of industry and population and to the development of transport and other public services. The location of industry is fundamental because a man's work in large measure fashions his life. Hence the Government's first step, according to Mr. Cole, should be to prepare a nation-wide economic plan for the best use of the country's natural and acquired resources. This would fix the framework within which regional physical planners would go on to consider designs for the best use of their land in terms of amenities and efficiency of service. It would then be left to the local authorities within each region to control the actual building and development in their own areas in conformity to these regional designs. Confusion is inevitable failing co-ordination between the Government departments responsible for different aspects of planning and building. Such failure Mr. Cole deplores as much as Dr. Bowley. He cites no fewer than fourteen major considerations of policy

which call for decision before it can become possible to predict with any pretence to accuracy the peace-time expansion needed in the building industry.

The structure of Great Britain, it is pointed out, badly wanted re-planning and re-building even before the outbreak of war, if it was to satisfy modern standards of amenity and keep step with technical progress. The need is much greater now. Re-planning on an adequate scale would guarantee employment to the building industry for several years, and it has long been recognised that this industry occupies a strategic position in any attempt to solve the problem of full employment.

Mr. Cole has himself drawn up a tentative twelve years' building programme, for which he estimates a labour force rising to 1½ millions in the fifth year would be necessary. Would such a force be available? The answer depends on priorities to be decided by the Government and upon the wages and conditions to which building operatives could look forward. If old methods of building are retained, more than half the total of men needed will be skilled craftsmen who cannot be trained quickly. How far will it be possible to use less skilled factory labour by resorting to pre-fabrication? Mr. Cole admits this possibility in large buildings of constructional engineering type, but doubts its wide extension in house-building apart from standard components and fittings. With the admitted qualification his adoption of the traditional assumption that one-man-year's labour is still required to build a house seems too conservative. There is also a surprising discrepancy between his estimates of housing needs and those of Dr. Bowley under certain specific heads, such as de-crowding and slum clearance (see Bowley, p. 228, and Cole, p. 147, making allowance for his figures being on an annual rate basis).

Dr. Bowley has given us a most valuable study of the causes of past failure or success in our subsidised housing experiments. Mr. Cole ventures to look more into the future, marshalling his facts and arguments with his accustomed clarity and skill. The two books are most timely, and it is to be hoped that they will be read and pondered by all Ministers and local administrators responsible for housing and planning.

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Buckden.

National Health Insurance. By HERMAN LEVY. (Cambridge University Press, for the National Institute of Economic and Social Research, 1944. Pp. 366. 18*s*.)

WITH *Industrial Assurance* and *Workmen's Compensation*, which Dr. Levy wrote in collaboration with Sir Arnold Wilson, this work forms a trilogy. It discusses in the same thorough and competent way the scope, benefits and administration of the British provision against sickness, initiated in 1911. The discussion is by no means purely descriptive, but is throughout closely related to the political and economic setting and to contemporary controversial literature on a model that Dr. Levy has made specially his own.

The history of the passing of the 1911 Act, told in the first chapter, is particularly timely in view of the present problems of legislating for a National Health Service. Dr. Levy is healthily sceptical of the ethic and logic that underlay that Act, and puts more stress on the power of the vested interest and the economic motive than does Sir John Clapham (quoted on page 14) or the Royal Commission of 1924 (quoted on pages 106–9). He thinks that the burden of evidence submitted to the Commission supports the view that panel patients do not get the same attention as private patients. Nor does he accept Friendly Societies (p. 82), or even Trade Unions, as always above the reproach of dogs in the manger. Dr. Levy is also critical of Britain's "background" research into the organisation of medicine. He appreciates the research work of the Medical Research Council and the Industrial Health Research Board into industrial fatigue and sickness, but complains (p. 103) that such bodies or similar official and semi-official organisations "are not expected to evolve anything like an economic or administrative system out of their medical enquiries."

Social science should, we agree, tackle problems such as the buying of medical practices, and the economics of doctoring generally; local deviations in access to hospital beds; queueing for out-patient treatment; and the financing of Sanatorium treatment of tubercular patients. Unless the stigma is still well-deserved, social psychologists might even be put to work to remove the public hospital's "poor-law stigma" from the proletarian sub-conscious. Let us hope the founding of Chairs of social medicine in Oxford, Birmingham and other Universities will remedy matters; but meanwhile Dr. Levy's very specific and well-documented points of criticism must be welcomed as constructive. He has worthily taken up the cudgels of the late

Joseph L. Cohen, "the only English economist who has made a special study of social insurance" (p. 22).

Of greatest topical interest is perhaps the *Postcript*, written after the publication of the Beveridge Report. Dr. Levy agrees with Sir William on the total inadequacy of the present National Health Insurance services. But he questions the need of some of the Beveridge proposals for making the scheme more adequate—particularly administrative unification with unemployment insurance; the flat rate of contribution and benefit regardless of income; and the divorce of the cash benefit from the medical services. In his reaction against the admitted inefficiency of the present methods of organisation Dr. Levy feels that Beveridge has under-estimated the value of interlocking, within the Health Insurance scheme, the palliative cash payment with the mainly preventive medical service. Early in the book (page 60) he writes, "the more effective the scheme is medically, in physical terms, the less costly it will be financially in terms of cash," and in his last page (355) he wonders whether it is wise to disconnect the power of the financial motive from rehabilitation and the positive prevention of ill-health.

Altogether, Dr. Levy's study is a most informative and thoughtful work. It is easy to follow in its logical development and easy, too, to use as a work of reference.

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Industrial Record, 1919–39. A Review of the Inter-War Years. (Bournville: Cadbury Bros., Ltd. London: Isaac Pitman, 1945. Pp. 87. 8*s.* 6*d.*)

THE firm of Cadbury has long been famous for its welfare work and social services inside and outside the Bournville factory. The firm is now also becoming famous as a pioneer in methods of industrial economy, and this short anonymous book describes recent changes in their practice.

It is remarkable how many of the general principles argued by textbooks of realistic economics are illustrated in this *Industrial Record.* The law of increasing returns and the disadvantages of integration (pp. 22–27); the function of the wholesaler (p. 55) and the high costs of small-scale retailing (p. 49); the ultimately beneficial effect of mechanisation on employment and the possible reconciliation of producers' and consumers' interests, are all instances in point.

Not all the principles illustrated were acted upon. The firm could not close redundant small shops, or do much to reduce the overwhelming costs of distribution by competitive retailers. But the firm did "disintegrate," standardise and mechanise its own production. Vertical disintegration disposed of a saw-milling department for making packing-cases, and diagonal (or service) disintegration cut down the proportion of printing, building and power provided by the firm itself. Transport services, too, were disintegrated. Local hauliers now bring milk from the farms to the condensing plants, a canal-carrying company owns the barges bringing the condensed milk to Bournville, and the railways (under a system of sixteen regional depots) haul the product in bulk most of the way to the consumer. This railhead system is said (p. 59) to have cut down transport costs nearly 50%, mainly by reduction of freight, packing and stock-room expenses.

Standardisation was forced by the war. Concentrating on block chocolate and producing twenty-nine "packings" as against 237, the firm, with an output tonnage down only by 12% between 1939 and 1942, saved 40% in labour, 20% in factory space and 50% in paper. As a result, though the cost of ingredients rose by 80% and wages and other expenses were up, the average retail price to consumers rose by only 17%.

Mechanisation proceeded steadily between 1924 and 1938. But though output per employee doubled (p. 29), price was reduced and sales increased sufficiently to employ almost the same number of factory workers. Principles of industrial location, too, were applied in the siting of milk-condensing plants and overseas factories (pp. 25, 26 and 78).

Such practical illustrations of economic theory do not exhaust the interest of this book. There are admirable charts showing (p. 77) the relation of exports to overseas production and (p. 80) the results of multiple taxation; sketching (pp. 11 and 13) the work of the planning department in maintaining an even flow of work day by day and season by season; and illustrating (p. 66) sources of recruitment and advancement to various levels, including positions of higher control. The discussion of methods of forming decisions on higher policy is, indeed, all too brief. We are told that certain Blue Notes (p. 14) "are the pre-requisite authority for the introduction of new lines, laying down the standard processes, recipes and prices and for variations in existing lines and normal procedure," and that though the cost office acts as the channel for these "instructions" (so as not to lose sight of the cost aspect) they must be signed by a Director.

We are also told (p. 14) of the importance of preserving "the roots of personal endeavour and individual responsibility" and the need for "decentralisation and localisation of authority." These are administrative rather than economic principles, but it would certainly help economists in identifying the entrepreneur to see such principles illustrated and charted as they work out in a successful industrial organisation.

By all means let us have more publications like *Industrial Record*. England's future prosperity depends as it has never before on its productive and distributive efficiency. Firms in every industry have much to learn from the economic and administrative practice of Cadbury Brothers.

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A History of the Business Man. By MIRIAM BEARD. (New York: Macmillan Company, 1945. Pp. 788. $5.)

THIS is an ambitious attempt to write the history of the successful business man or entrepreneur from the early days of the Homeric Age to the eve of the Atomic Age.

After a stimulating introductory chapter where she formulates her thesis or theme, the author proceeds to develop her survey in five somewhat disproportionate parts: the Heritage of Antiquity, the Patrician City Ruler, the Monopolist, the Individualist and the Big Business Man. The scope of her inquiries is indicated by the titles of her first and last chapters. She opens with *Swordsmen and Salesmen in the Homeric Age* and closes with two brief chapters on *Great War, Growing Masses, Big Business and the Closed Frontiers* and (American) *Business in Search of Credo and Character.*

The author states that the book "is an attempt in a new direction—a biography of a type, instead of an individual . . . a picture of the business man, the organiser of economic enterprise, whether in trade, finance or manufacture."

She further states, "Not written around a rigid thesis, this book is intended to present an assemblage of facts about the development of the business man and his influence on the rest of society. It brings to popular attention a large amount of fresh material unearthed by Continental scholarship, which helps to explain his role in affairs and provides him with the historic setting he has hitherto lacked."

The author has a very racy style; her alliterative captions

of chapter and paragraphs are arresting, and reflect her training at one of the American post-graduate Schools of Journalism. She has compressed into her twenty-eight chapters a considerable amount of information, reminiscent of H. G. Wells' *Short History of the World.* The book abounds in smart epigrams, *bon-mots* and striking portrayals. The author has a flair for vivid writing. She weaves quite a romance about the business man in history. For my own part, I was quite enthralled by the first seventeen chapters, but as I read her eighteenth and nineteenth chapters on *Stirrings and Steam in Europe* and *Business Ferment on British Frontiers,* I felt her romantic pen ran away with her, so much, as to depart from strict historical or biographical fact.

One or two quotations from Chapter XIX, which deals with some of the familiar British business men of the eighteenth century, responsible for what Miriam Beard calls the " business ferment on British frontiers "—Wedgwood, Boulton, Arkwright and Watt, will illustrate this criticism.

Of Josiah Wedgwood she writes (p. 489) : " As the first manufacturer to provide England with a first-class article of wide exportability—in addition to woollen cloth—Wedgwood became famous and admired." This sentence is a generalisation with which few could quarrel—not even some of his contemporary rivals in the pottery industry.

But the next sentence shows that the author has tripped up badly. " After his first half-million pounds, *he got a knighthood.*"

One is tempted to ask, When was Josiah Wedgwood knighted, and by whom ? But there is no need to ask the author to answer these questions, for such a statement is pure fiction. Wedgwood was never knighted, except in Miriam Beard's mind.

This fiction she repeats (pp. 491–2) in her paragraph on Richard Arkwright :

" Finally, like Wedgwood, he too received the seal of social success by being made a knight by George III."

Although in the appended Bibliography she lists 200 books which she has consulted, I do not detect one authoritative book or biography of Wedgwood, like Meteyard, Professor Church, Jewitt or Lord Wedgwood, from a perusal of which she could have checked this point. From internal evidence in her own book, she unwittingly indicates why Josiah Wedgwood never was a person ever likely to be knighted, least of all by a monarch like George III. She writes of Wedgwood [1] : " In many ways

[1] *Ibid.*, pp. 489–90.

Wedgwood illustrates the best quality in Staffordshire—its lively curiosity. His activity was constant in many fields. He . . . *read Rousseau, staunchly defended American independence*" (italics mine).

Wedgwood's sympathy for the French Revolution, and later with the American Revolution, as is stressed by his biographers, and even by Miriam Beard, is reason enough why he was never knighted by such a reactionary monarch as George III.

One of Wedgwood's political traducers in the *Morning Chronicle* of 1787, in an anonymous letter signed "Friar Bacon's Ghost," went even farther than the present author. He wrote with bitter sarcasm, "Mr. Wedgwood *will be*, in all probability, *dignified* for his present services, with the title of Sir *Josiah*, and should he continue to let his clay be moulded by Administration, a Peerage *will be* most likely to grace his brow." (Italics his.) The "probability" has become an "actuality" in Miriam Beard's chapter.

If the author in future editions checks some of her alleged facts, her book will be a stimulating spotlight on the business man in history. For the moment her inaccuracies, where one can check her, as in the examples that I have taken, make one suspect her where one is in no position to verify her statements.

JOHN THOMAS

Manchester.

Alfred Williams: His Life and Work. By LEONARD CLARK. (Oxford: Basil Blackwell, 1945. Pp. xi + 206. 17*s.* 6*d.*)

ALFRED WILLIAMS' writings describe the lives of the villagers in the village where he was born and in the Vale of White Horse and the upper Thames; his own life was lived in one of these villages, and the description of his life by Mr. Leonard Clark shows him to have been a villager fully conversant with the way of life of the rural worker.

By the chances of birth, Alfred Williams was fated to be a farm worker, but, like so many others of his contemporaries, he broke away—not too far—at the age of fifteen (in 1892) to take work in the G.W.R. works at Swindon, where he continued to work until he joined the army in World War I. All this time he lived at Marston, and walked or bicycled to and from the works, and in the evenings, often I fear far into the night, he slaved at educating himself to be a literary man. Facilities for educational

guidance after leaving the village school were non-existent in those days, and Williams, like others who undertook the same task, was very much the sport of chance.

It is almost inevitable that a self-educated writer should at first attempt to make himself a poet, and was more so in the late Victorian age. Williams' first published work was poetry, but although three volumes followed one another, he did not achieve the stupefying success that overtook his literary ancestors Clare and Bloomfield: nor was he, like Clare, driven into a madhouse through a life of want and trouble, although he suffered greatly in health because of the savage endurance he exercised to enable him to follow his chosen path. His exertions, coupled with his poverty, were undoubtedly responsible for the shortening of his life and his early death at fifty-three.

May I say that from an economic historian's outlook it is mildly a pity that Williams' biographer, himself a poet, is more interested in his subject's poetical productions than in his prose works, the first of which appeared in 1912, and was *A Wiltshire Village.* Williams, like so many moderns who have less justice and who do not lead it, believed that the rustic is the ideal life, and tried to describe it as it was being lived and had been lived in living memory in the village where he was born. He did, indeed, anthropological work in his birthplace instead of amongst the savages inhabiting a little-known territory in the remote hinterland of civilisation. The book is, as Clark says, a straightforward and ungarnished account of the daily life of South Marston, and later studies of the same kind are contained in *Villages of the White Horse* and *Round about the Upper Thames*, while yet another similar volume lies buried in the obscure sheets of the *North Berks. Herald*, where it was published in serial form.

These books contain a deal of information of value to the social and economic historian. They give all sorts of details—diet, clothing, house room, furniture of the village people. Farm workers, keepers, poachers, odd-job men and women, the saddler, the blacksmith and the other tradesmen of the older days are all depicted. In Williams' own words, the characters that figure in his pages are not imaginary, but are, or were, real persons, and they are comparable to George Bourne's *Bettesworth* books as well as to the work of Richard Jefferies, whom Williams followed in time.

Life in a Railway Factory, which I had not heard of until I read the book under notice, contains similar material about urban workers in Swindon; and all these studies are gathered into a

sheaf by the publication of Leonard Clark's "life." Williams had a hard, desperately hard, life, or so it seems to me, but he was justified if only because he has recorded the everyday activities of working people in the countryside of the later Victorian age, a kind of living that is more remote from us than it was from that of many generations of those people's ancestors.

G. E. FUSSELL

London.

NOTES AND MEMORANDA

Livelihood and Full Employment

1. In an article on "Full Employment and Security of Livelihood"[1] Mr. Harrod proposes a system by which there would be a living wage and a market rate for each occupation, the latter being paid by the employer and fixed so as to secure full employment, but whenever it was below the living wage the workers would receive also a subsidy from a national fund to make up the amount of their living wage. The article is of value in redirecting attention to the relation between wages, costs and employment, which, as Mr. Harrod indicates, has not been sufficiently considered in recent years. Theoretically his scheme would ensure full employment, being based in part on the classical conclusion that if wages are sufficiently flexible there will be employment for all. In the present note difficulties are examined which would prevent a practical application of the plan.

2. Mr. Harrod claims that the initial fixing of the living wages should not be difficult. He recognises that utopian standards must be avoided, and proposes that, for the various skills and grades, the existing schedules of minimum rates in all their complexity fixed by collective agreements and Wage Councils should be recognised by law as defining the living wage.[2] However suitable these schedules in the different industries may be for the operation of Mr. Harrod's scheme, the rates vary so greatly between grades, industries and localities that they would not conform with the generally accepted idea of a living wage. Leaving aside this question of definition, how would these rates be adjusted in the future? Evidently the intention is that they should continue to be fixed mainly by collective bargaining and Wage Councils.[3] But these wage negotiations would become artificial once the subsidy scheme was in operation.

In the past the trade unions have known that if they pushed their demands for wage increases too far, unemployment would result. Under Mr. Harrod's system, however, there would be no

[1] Economic Journal, December, 1943.

[2] Fair Wages Tribunals would be set up to deal with cases where the wages were unduly low by comparison with similar occupations at the time of the initial fixing.

[3] Subject to review by Fair Wages Tribunals, and, once a decade by an independent high authority. Annual increases would be made to keep the living wages in line with industrial progress.

such criterion. Employers' organisations would have little inducement to resist trade union demands, as, if " living " wages were fixed beyond the profitable level, the employers would then pay the lower market rate (fixed by the Minister of Labour), and the workers would receive the difference from the national fund.[1] Even if the absence of a firm criterion resulted in " living " wage scales only 10% or 15% too high, this would be quite enough to make the scheme unworkable by rapidly draining the fund. Mr. Harrod's proposal for a review of the rates once every decade by an impartial high authority would not be an effective safeguard, and if the impartial authority acted more frequently and altered substantially the rates fixed by collective bargaining and Wage Councils, it would become responsible for wage regulation. This would involve a drastic change in, or abandonment of, the present system of wage settlement, and would be unacceptable to trade unions and employers' organisations. Also, although one of the main reasons for Mr. Harrod's plan is his dislike of Government control and interference with freedom of workpeople to choose their occupations, his scheme would result in replacing the present system of voluntary negotiation by comprehensive Governmental wage control.

3. Somewhat similar problems arise from the proposal that the Ministry of Labour should fix market rates of wages, which would be those actually paid by employers and would be at such levels for each industry and occupation as to ensure virtually full employment. But it is doubtful whether the Ministry of Labour could, in a democratic country, be equipped for this responsibility, or whether employers' organisations and trade unions would relinquish to the Ministry the important task of fixing market rates. Employers in each industry would have an interest in pressing for lower wages, and the trade unions would have much less incentive than at present to resist reductions, as their " living " wages would be made up from the fund. There would also be danger that adjustments of the market rates would not be rapid enough in periods of changes in prosperity.[2]

4. It would appear to be Mr. Harrod's intention that the same market rates would be applied uniformly to all undertakings, whether prosperous or not, throughout an industry. Where variation in efficiency and prosperity between undertakings is

[1] For this reason it is likely that " living " wages would almost always be higher than market rates.

[2] Market rates would usually be fixed at an appropriate percentage of the " living " wage schedule, but much sifting of economic data and securing approval of interested parties would be necessary.

considerable, a moderate reduction of market rates might have little effect upon unemployment, as the prosperous firms might not be able to take on many more workpeople, owing to limitations of factory space and machinery, while the less efficient firms might need heavier reductions to induce them to increase the number of their workpeople substantially, but big reductions in market rates would involve a heavy drain on the fund. Elasticity of demand for the products of an industry would be an important factor in determining the magnitude of market rate changes.

5. The national fund from which subsidies would be paid would be created by a "proportional levy on the net receipts of employers." Payments to the fund would be greatest by prosperous industries and undertakings, and large sums would be transferred from them to sustain wages in the less prosperous industries. Thus the scheme would penalise efficiency and discourage initiative.

6. Mr. Harrod, recognising that employers might be discouraged by the levy, proposes that a ceiling should be fixed for the levy, any deficiency in the fund resulting from this ceiling being borne by the general taxpayer. His proposal is that "the total amount of the levy should not be so great as to leave the total profits of employers less than they were in an agreed representative period, *e.g.*, the years 1933–8," but he admits that this might involve accountancy complications. This is certainly true, and it would also be difficult to estimate the amount of the burden which would fall on the taxpayer. The scheme would not work if a wide gap developed between "living" wages and market rates, and yet, except in periods of boom, the gap would be considerable in many industries.

7. While admitting that workpeople would be less repelled by declining industries than at present, Mr. Harrod considers that his scheme would result in much greater mobility of labour. He argues that market rates in prosperous industries would rise higher than under collective bargaining, and these higher rates would be the principal means of securing increased mobility and clearing the labour market. Already, however, in prosperous industries the rates fixed by collective bargaining are considerably higher than in depressed industries, and work, if available, represents a powerful attraction to people paid at lower rates and experiencing unemployment in depressed trades. On balance it would seem likely that the reduction in mobility resulting from virtually guaranteeing employment and a "living"

wage in their present occupations and localities would be much greater than any increase due to high market rates in other occupations and localities.

8. Mobility resulting from high market rates in prosperous industries would be supplemented in Mr. Harrod's scheme by restriction or prohibition of new entrants into depressed trades wherever market rates in these trades were 10% below the "living" wage. This would be only a slow process for reducing the working force in such trades. Also restriction or prohibition of new entrants would be appropriate only for industries experiencing a long-term decline, but not for those affected by cyclical depressions. It may further be noted that in a severe cyclical depression market rates might have to be reduced in some industries by much more than 10% below the "living" wage in order to clear the labour market.

9. As already indicated, increased mobility under the scheme is unlikely, but, if achieved, would conflict with Mr. Harrod's proposal that economic plans should be framed "on the assumption that it is advisable for the normal worker to remain through life in the same place and trade. . . ." Such a policy is, however, unacceptable in these days of rapid economic and technological change, and if generally applied would result in greatly increased unemployment. It would be beneficial for many elderly workpeople, but all others should be encouraged to be mobile. Employment would be facilitated if a considerable number of workpeople could acquire reasonable skill in at least two trades, instead of concentrating on only one, and this would give them greater confidence and sense of security. Also, semi-skilled workpeople, whose job can be learned in a few weeks, and unskilled workpeople, numbering many millions in this country, are readily mobile between industries in their own locality. Mr. Harrod describes change of trade and locality as a painful process, except for the adventurous few, and considers that mobility should be mainly by juveniles. It can be agreed that the process of being squeezed out of a depressed industry is painful, but it is the squeezing and not the movement which is painful. The change to an expanding industry perhaps in a new locality, with higher wages and less risk of unemployment, is surely a stimulus and satisfaction.

10. As already indicated, the scheme would have important reactions on industrial relations. The powers of the Ministry of Labour over wage regulation would be greatly increased, while the functions of trade unions and employers' organisations would be substantially changed and their responsibilities diminished.

Their opposition would, therefore, be likely to make the adoption of the scheme impracticable. Mr. Harrod considers that the right to strike for wage increases or for reduction of hours which would increase labour costs, should be renounced in return for the benefits of full employment and the " living " wage, though he would not make such strikes illegal. Participants in strikes for these purposes should, he suggests, forfeit for a term of years their rights to the subsidy and to full pay when out of work. This would be very difficult to apply in practice. It can be agreed that the strike is a primitive weapon, but it would be preferable that it should be abandoned not in the way proposed by Mr. Harrod, but because of a growing recognition that the losses outweigh the gains and that, used as a last resort, arbitration is nowadays able to secure impartial settlement of disputes.

11. It is very doubtful whether people can retain freedom to choose their own occupations and also be safeguarded from the risks inherent in this freedom of choice. The main dangers from Mr. Harrod's scheme would be the handicapping of expanding and progressive firms and industries for the benefit of declining and inefficient ones, and the mal-distribution of labour because workpeople in declining industries would have little inducement to move. Although intended to retain freedom of choice, it is likely that the scheme would require much Government direction of labour movement, especially from industries with a considerable surplus of labour.

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OBITUARY

Sir Hubert Llewellyn Smith (1864–1945)

Sir Hubert Llewellyn Smith, who died in September last, in his eighty-second year, was an outstanding public servant, in peace and in war. Entering the Board of Trade as Commissioner for Labour in 1893, he was its Permanent Secretary from 1907 to 1919 and Chief Economic Adviser to H.M. Government from 1919 to his retirement from the Civil Service, though not from work, in 1928. As a supremely constructive person, he was fortunate in reaching the most influential position in his career in 1907, just when a Government had come to power that wished to get new things done. The country was fortunate in having

him there when the first of our total wars required so many new things to be done which fell in or near the sphere of his department.

I met him for the first time, I think, in 1905, when he came, at Canon Barnett's invitation, to Toynbee Hall to talk for a long evening to two or three of us who were beginning to study and try to deal with the problem of unemployment, and particularly with casual employment in the docks. He was at that time, as for the most of the rest of his official life, one of the busiest of civil servants. When he had gone, I remember Canon Barnett commenting on the generosity with which Llewellyn Smith had given his time and had unrolled his mind just for the benefit of two or three. Llewellyn Smith, who had himself been a resident at Toynbee Hall, had been through all the excitement of the great dock strike in 1889, one of the sources of the new Unionism, and with Vaughan Nash was the author of a fascinating but unfortunately rare history of that great upheaval.

I saw Llewellyn Smith next when he had become Permanent Secretary of the Board of Trade under Mr. Winston Churchill as President, and had been commissioned to devise for the Government what they should do for unemployment. The fruits of this commission were the Labour Exchanges and unemployment insurance. What Llewellyn Smith did there was the most striking refutation of the nonsense that is talked so often about the lack of initiative of civil servants and the attribution of new ideas always to the Minister. Llewellyn Smith, from a study of various attempts at unemployment insurance in different countries, reasoned himself to the conclusions that voluntary insurance in this field was futile, that compulsory insurance covering the whole of the population, in absence of adequate machinery and knowledge of the varying risks, was impracticable, and that compulsion to be effective must be applied through the employers; from this he came logically to the compulsory scheme limited to particular industries which ultimately saw the light as Part II of the National Insurance Act of 1911.

It so happened that in 1910 he was President of the Economic Section of the British Association for the Advancement of Science, and took the opportunity of delivering at Sheffield an address on "Economic Security and Unemployment Insurance" setting out this chain of reasoning, which led to unemployment insurance as it first saw the light in Britain and in the world. This address, printed in the ECONOMIC JOURNAL for December 1910, must certainly be one of the most important ever given in that capacity.

Not only in broad lines, but in many details his inventive genius showed itself. I remember, for instance, his saying to me that we could not possibly allow questions to be asked and answered in Parliament as to every claim to benefit, but must somehow side-track decisions on these claims to a judicial authority. Hence came from him the invention of Insurance Officers, Courts of Referees and Umpire. He was also a master in the technique of legislation, knowing whom to consult and conciliate, how to be ready for every problem that might arise. I remember his coming back from a week-end at Ashtead with a list of fifty objections from every possible angle, sensible or foolish, to the scheme as it was being drafted. It was made my task to find answers ready for the Minister in the House of Commons.

Three years after unemployment insurance in 1911 came the First World War. The Board of Trade at that time was beyond question one of the most important departments of Government, covering not only its present sphere, but the work that is now spread between four or five departments; railways, shipping, labour, food, as well as the Board of Trade. It was Llewellyn Smith's initiative which, just in time for the outbreak of war, got through the scheme of war risk insurance which did so much to secure in the first days the continuity of sea-traffic. Later he devoted himself to the problem of widening the basis for the supply of armaments, first in the Board of Trade and later as General Secretary of the Ministry of Munitions under Mr. Lloyd George. He was at this time at the top of his powers and his amazing industry. There seemed to be no limit to the things he could find time to think of. Scarcely was the Ministry of Munitions going, when his mind turned over to problems of peace and reconstruction; he was one who always saw the next move ahead. One of the fruits on this occasion was an Act to extend unemployment insurance so as to be ready for post-war slump. This Act had the strange history of getting through Parliament in 1916 without discussion, and then being defeated by the opposition of employers and operatives who were certain there would be no slump.

The Second Coalition under Mr. Lloyd George as Prime Minister brought about the break up of the old Board of Trade, which, after parting with railways, food, labour and shipping, still had plenty to do. With the end of the First World War, Llewellyn Smith left his position as Permanent Secretary to the shrunken Board of Trade for the newly created post of Chief Economic Adviser, on which he did very responsible negotiating work on particular problems.

He retired from the Government service in 1928, not to idleness, but to return to his interests as an economist in the social condition of the people. At the School of Economics we had for some time been feeling that the great survey of London made by Charles Booth ought to be made again, but we could not see who had the time, energy, abilities and prestige to undertake it, till the possibility of using Llewellyn Smith for this arose. Here in the seven years from 1928 to 1935 he put through another immense task which without him could never have been accomplished.

As men are to be judged in part by how they appreciate others, I may conclude by quoting comments which he made to me about the two great war leaders—Mr. Lloyd George and Mr. Winston Churchill—with each of whom it was his fortune to be associated in major tasks. Of Mr. Lloyd George in the troublous times of 1916 I remember his saying that Lloyd George had a passion to win the war which none of the other members of the Cabinet seemed even to understand. Of Mr. Churchill in his days as President of the Board of Trade, Llewellyn Smith observed to me that the President had a mind about everything and it was a mind which commanded attention. In line with this was another comment: that one of Mr. Churchill's great qualities was "that he would listen to reason; he didn't like it at all but if you persisted it went home in the end." Llewellyn Smith would say of both these great men that they had from the Civil Servant's point of view the admirable quality of being good Parliamentarians; they never fumbled their briefs. *O si sic omnes.*

There are many other aspects of this many-sided man which I can only mention. One was his interest in Industrial Art, signalised by his being Chairman of the British Institute of Industrial Art from 1920 to 1925. This interest led to his giving at the School of Economics a course of lectures on the "Economics of Art Production," subsequently published in book form, which marked a new approach to the subject. Another life-long interest was in Boys' Clubs, and was signalised by his being Chairman of the National Association of Boys' Clubs from 1935 to 1943. With all this, he found time in the years which are normally years of retirement to produce a fascinating History of East London.

For constructive inventiveness in making new ideas in public administration viable, Llewellyn Smith can never have been surpassed, and can have had few equals. He would, no doubt, have shown this quality in whatever branch of administration he found himself. It was a fortunate accident that turned his gifts

in a direction in which they were most needed and at the same time enriched them. He had planned at one time to enter the Civil Service by the ordinary competitive examination at the end of his University course, but began instead an alternative career, as University Extension Lecturer and in the study of social problems in East London. He came in to the Civil Service as a specialist, to start the new Labour Department of the Board of Trade, at the age of 29. His outstanding services to his time and generation are a striking illustration of the undesirability of limiting entrance to the public service to the ordinary competitive examination suited only to young men fresh from their academies.

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Northumberland.

ACHILLE LORIA (1857–1943)

IT is with the deepest regret that I must record the loss of Professor Achille Loria, perhaps the oldest surviving foreign correspondent of the Royal Economic Society. When in 1932 Achille Loria (born in Mantua on March 2, 1857) reached the age limits of his teaching career, I undertook, on behalf of his colleagues in Turin University, the task of compiling and offering him a "Loria—Bibliography." No task was ever so pleasing and, at the same time, embarrassing. Loria was a systematic writer, whose gargantuan work was, nevertheless, carried on amidst an apparently terrific disorder. Books stood upside down on the shelves in strange companionships; unbound issues of scientific journals were mixed up with daily newspapers; huge piles of volumes lay on chairs and the floor: a truly picturesque sight. A tall man, eternally young, unchanged at fifty, seventy and eighty-five years of age, he had a characteristic prophet-like face, reminiscent of the familiar Christ portraits. His pen and his words on occasions vigorously abused orthodox academics and capitalistic arch-evil-doers; but his soul was candid and his heart was kind, filled with goodwill to friends and foes alike.

As in many families of Jewish descent (his ancestors came to Mantua from Catalonia in the sixteenth century), his family ties were of the strongest and in his autobiography (*Ricordi di uno studente settuagenario*, Bologna, 1922) he wrote some beautiful pages of his old home at Mantua, of the lakes and marshes around the dead town, of his mother and wife and sons. In his *horae*

subsecivae he took to poetry; and in the leading monthly Italian Journal (*Nuova Antologia*) we may read an ode *Al mio bastone* (To my Walking Stick) on the twenty-fifth anniversary of its use.

But Loria was first and foremost an economist. As such he was recognised all the world over; and from the year 1896 to his death he had the honour of being the Italian Correspondent of the Royal Economic Society.

In Italy the zenith of his scientific and academic influence must be put in the decade of the 90's. There was then no young student of economics who did not read eagerly Loria's great work on the *Analysis of the Capitalist System* (*Analisi della proprietà capitalistica*, 1899). The book was the fourth in succession to *La rendita fondiaria e la sua elisione naturale* (1880), in which he strove to analyse the various natural processes by which the rent of land is eliminated; *La legge di popolazione ed il sistema sociale* (1882) and *La teoria economica della costituzione politica* (1886), both aiming to describe the economic background of political, social, literary, religious ideas and institutions. The materialist theory of history was then in great favour. Perhaps its most systematic and uncompromising interpreter was Loria. He remained always faithful to it.

The climax of his thought was reached when, mainly through indefatigable reading in the British Museum (I never met a man who could quote from memory so many forgotten English books, tracts and pamphlets of the eighteenth and of the first half of the nineteenth centuries), he hit on the fundamental idea which pervaded all his subsequent scientific work: the *terra libera*, the free land influence. All his subsequent major works—*La costituzione economica odierna* (1899); *La sintesi economica* (1909); *I fondamenti scientifici della riforma economica* (1922); *La dinamica economica* (1935) and *La sintesi economica* (1934)—were embroideries, sometimes surprisingly keen and all-embracing, on the same point. Economic history is the result and economic theory is the explanation of the relation between population and free land. The first stage of economic development, when there is unlimited free land at the disposal of man and he is working with simple tools, an economic and political society cannot subsist without a slave system or serfdom. In a second stage, in which free land must be bought with capital, wages must be legally or artificially reduced to a level which excludes savings, and land prices must be enhanced to preclude workers from the purchase of land. Workers are thereby forced to work in factories as wage-earners. In a third stage, when there is no

more free land, and wages are therefore automatically reduced to a minimum, the capitalist profit system requires no forced intervention, as in the first stage (that of slavery and serfdom) and in the second stage (that of artificial pricing of free land) and seems to have reached a stationary stage. All this process looks somewhat far-fetched; and sometimes even odd, as when Loria, embroidering on the evil effects of the end of free land, succeeded in imagining that the working man might reconquer freedom in the age of aircraft, when man may sail the air and, feeding on birds, be able again to escape the capitalist's yoke.

We must not, however, pass judgment on Loria's theories from these extreme manifestations of them. He was gifted with great analytical power in interpreting the clash between economic and social classes, the frictions between wealth and welfare, between general and individual interest. After an epoch in which Francesco Ferrara, the leading Italian economist of the nineteenth century was dominant in Italy, there was bound to be a reaction. Ferrara was, from a political and social point of view, an optimist, a free-trader, a believer in the good effects of economic freedom. In the seventies a great struggle raged in the Italian economic journals between Ferrara, the individualist, and Luzzatti, a believer in social reforms, on the German, Wagnerian and Bismarckian, pattern. In the eighties this polemic seemed to fade away. Socialism, class struggles and strike epidemics were growing. Loria was the theorist. Few socialists understood or read his books; but they felt that the academics were no longer exclusively on the other side.

Scholars can forget all this social background and remember only Loria's scientific legacy, which is by no means negligible. If someone were to extract from his huge volumes the brilliant pages which contain the analysis of the concept of "free land," we should realise that in Loria there are not a few revivals of the Ricardian line of reasoning. I remember Loria recalling how, when he was in his twenties, he worked hard writing and re-writing a paper, first in Adam Smith's fashion, then in Ricardo's style and afterwards in the manner in which he imagined the same subject would have been analysed by J. B. Say, by John Stuart Mill, or by Cairnes. There, I think, he stopped; for, if he were a great admirer of Alfred Marshall, he did not like his exquisite, careful type of analysis, and he hated cordially the Austrian psychologists, and the mathematical school, excluding Cournot, who, as he used to say, was the only one among mathematicians who discussed truly economic problems. Walras and

Pareto were certainly not among his deities. He stood firm by the classics, rejuvenated by Marx. In the classical tradition he wrote a truly classical book *Studi sul valore della moneta* (1890 and 1901), perhaps the best book that I know on the history of British monetary theories of the 1750–1850 period. As happens so frequently with authors, this book was passed over lightly by Loria in his autobiography; much in the same way as Pareto never allowed his *Cours* to be reprinted, and was more fond of his latest work on Sociology. Posterity will probably reverse this parental judgment as, I think, economists have already reversed it. Though economists may be weary of perusing Loria's mighty treaties on the capitalist system and be content with a few of the best analytical pages on the economics of free land and with some really wonderful *Stelloncini*—short half-page strictures on the fallacious reasonings of his fellow economists, such as he published in the *Riforma Sociale* between 1916 and 1932—they will, I feel sure, not be able to forget his *Studies on the Value of Money*. I, for my part, must confess my indebtedness to this book whenever a doubt assails me as to the great monetary debates of a century ago.

LUIGI EINAUDI

Rome.

Summary of Events in Achille Loria's Life

Born in Mantua, March 2, 1857; Doctor in Law, Bologna, July 8, 1877; studied economics at Pavia, under Professor Cossa, in Berlin, and London, 1879–1882; Professor of Economics, Siena University, November 1, 1881; at Padova, 1891; at Turin, 1902; first manuscript on the *Analysis of the Capitalist System* crowned, 1883, by the Accademia dei Lincei, of which he became Fellow, 1901; Italian Correspondent of the Royal Economic Society, 1896; Honorary Fellow of the American Economic Association, 1926; Senator of the Kingdom of Italy, October 6, 1919; married, December 29, 1889, Adelina Artom; 2 sons, 1 daughter. His death at Luserna San Giovanni, Piedmont, November 6, 1943, a few months after the loss of his wife, saved him from the worst persecutions of the nazi-fascist regime.

Bibliography

I published a complete bibliography of Loria, *Bibliografia di Achille Loria*, in *La Riforma Sociale*, 1932, forming a supplement of 55 pages. Under 15 chapters are given the full and complete titles of 884 items. After 1932, Loria continued to write; and I have mentioned above his works entitled *La sintesi economica* and *La dinamica economica*, to which a dozen essays and articles must be added. Two manuscripts are unprinted, the first a sequel to the *Stelloncini* and the second to the autobiography, under the guise of an imaginary sea voyage, with judgments on men and books.

CURRENT TOPICS.

FROM this issue the ECONOMIC JOURNAL will again be appearing four times in each year. We hope as quickly as possible to revert to our normal pre-war dates of March 1st, June 1st, September 1st, and December 1st. But so long as printing difficulties remain as they are to-day we ask for the indulgence of members if, from time to time, the ECONOMIC JOURNAL arrives less punctually than they, the editors, or the printers, might wish. It is not proposed to revive during the current year publication of ECONOMIC HISTORY. But it is hoped to publish, as during war-time, a selection of articles on subjects dealing with economic history from time to time in the ordinary issues of the ECONOMIC JOURNAL itself.

WE record with very great regret the death of Sir Charles Addis. He was made a member of the Council of the Royal Economic Society in 1914 and remained a member until his death. We hope to publish an obituary notice in a forthcoming issue.

IT will be known to many of the Fellows of the Royal Economic Society that the Royal Statistical Society has petitioned the Privy Council for permission to amend its Statutes to cover the examination of candidates for diplomas or certificates in statistics. While there could be no two minds about the importance of improving teaching and standards in statistics, there had seemed to the Council of the Royal Economic Society some danger that such examinations, if they became obligatory qualifications for all who were hoping to do work in economic statistics either for the Government or industry, might be to the prejudice of large numbers of applied economists. The Council therefore asked the Privy Council for a thorough examination of the proposal before the petition should be granted. There has lately been a joint meeting between representatives of the two Councils at which it is hoped that a solution acceptable to both Societies has been found.

THE Secretary of the National Institute of Economic and Social Research informs us that the National Institute has awarded two of the Senior Research Fellowships which were offered in 1945 as follows :

> To Mr. E. J. M. Buckatzsch, of Balliol College, Oxford, a full-time Senior Research Fellowship for the period of one year with tenure from September 1946, for the purpose of undertaking research into *Inter-local variations in total*

private incomes between cities and areas of England and Wales 1929–39.

To Mr. H. G. Schenk of Exeter College, Oxford, a part-time Senior Research Fellowship for the period of one year with tenure from October 1945 for the purpose of undertaking a comparative study of *The social revolution and European romanticism.*

Two further Fellowships are now offered for award with tenure for the academic year 1946–47. The Fellowships are for the purpose of advanced research, primarily in the field of economics and social economics, but not excluding other social subjects especially those which are closely connected with economic problems. Candidates for the Fellowships must be recommended by professors, directors or heads of university departments or research institutions, or heads of colleges in the United Kingdom.

The Fellowships may be full-time or part-time, the normal stipend of a full-time Fellow being £600 per annum. The Fellowships are open to both men and women and there are no nationality restrictions, but candidates must be normally resident in the United Kingdom. Full information may be obtained from The Secretary, The National Institute of Economic and Social Research, 53 Romney Street, Westminster, S.W. 1.

THE Trustees of the Houblon-Norman Fund invite applications for Fellowships and Grants in aid of research into the working of financial and business institutions in Great Britain and elsewhere and the economic conditions affecting them. Apart from exceptional cases, awards will be confined to British-born subjects normally resident in the United Kingdom. Fellowships will be awarded for one year, renewable for a second year; and the amount of all awards will depend upon the circumstances of the candidate and the likely expenses of his work. Applications should be made not later than the 31st March, and forms of application may be obtained from the Secretary of the Fund (H. C. B. Mynors), c/o the Bank of England, London, E.C.2.

APPLICATIONS are invited by the University of London for the Leon Fellowship for Research (preferably in the fields of Economics or Education) for the Session 1946–47. The Fellowship is of the value of £400 a year, and is tenable in the first instance for one year. It is not essential that candidates should be members of a university. Selected candidates will be required

to attend for interview. Further particulars should be obtained from the Academic Registrar, University of London, Senate House, London, W.C.1, and applications for the Fellowship must be received not later than April 1, 1946.

The following have compounded for life membership of the Royal Economic Society :—

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Browne, J. H.
Challiner, B.
Chen, Hung
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Pattinson, R. G.
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The following have been admitted to membership of the Society :—

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Croke, L. A.
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Sociedad National Agraria, Peru.
The Standard Life Assurance Company, Edinburgh.
The Trade Delegation of the Soviet Union in the U.K.
Wilmington College, Ohio.
W. C. Harris & Co., Ltd., Toronto.

Dr. W. Stark, who is engaged in preparing an edition of Bentham's economic articles for the Royal Economic Society, would be most grateful if any member could inform him of the existence of a copy of Bentham's fragmentary pamphlet entitled *Circulating Annuities*. The only available copy before the war, that in the British Museum, has been destroyed by enemy action. He is anxious if possible to print from a copy of the original pamphlet rather than from the unsatisfactory text of Bowring. Mrs. Stark is at the same time engaged in preparing a critical edition of Bentham's private correspondence, and would be grateful for any information regarding the whereabouts of such letters. Their address is 5 Allan Park Loan, Edinburgh II.

RECENT PERIODICALS AND NEW BOOKS

Journal of the Royal Statistical Society.

PARTS I–II, 1945. *Cricket Scores and Some Skew Correlation Distributions (An Arithmetical Study)* : SIR WILLIAM ELDERTON. *Cricket Scores and Geometrical Progression* : G. H. WOOD. *An Enquiry into the Assessing of Salvage Awards* : C. T. SUTTON. *On the Analysis of Oscillatory Time-Series* : M. G. KENDALL. *The Structure of British Industry* : H. LEAK and A. MAIZELS.

Economica.

NOVEMBER 1945. *The Economic Organisation of a P.o.W. Camp* : R. A. RADFORD. *Competition in Retail Trade* : W. A. LEWIS. *Recent Contributions to General Equilibrium Economics* : J. R. HICKS. *Income Tax and Incentive to Effort* : H. S. BOOKER. *A Note on the Elasticity of Expectations* : L. M. LACHMANN.

The Review of Economic Studies.

VOL. XII, NO. 31. 1944–45. *Some Aspects of the Theory of Future Trading* : GERDA BLAU. *Labour for the War Industries : the Experience of Coventry* : A. SHENFIELD and P. SARGANT FLORENCE. *Regional Differences of Productivity in European Agriculture* : A. DANIEL. *The Inter-Relations of Shifts in Demand* : D. H. ROBERTSON, J. R. HICKS and O. LANGE.

The Political Quarterly.

JANUARY–MARCH 1946. *Britain and Western Europe* : R. H. S. CROSSMAN. *Britain in the Atomic Age* : LEONARD WOOLF. *International Trade* : H. GAITSKELL. *Britain and Russia* : KINGSLEY MARTIN. *International Radio* : N. NEWSOME. *Psychology and Democracy* : J. BOWLBY. *The Future of Anglo-American Relations* : A. VALLANCE.

The Eugenics Review.

JANUARY 1946. *The Relation between Eye-Colour and Defective Colour-Vision* : C. BURT. *Sex Education Aims, Possibilities and Plans* : C. BIBBY. *Gregory King and the Population of England and Wales at the End of the Seventeenth Century* : D. V. GLASS.

Oxford Institute of Statistics.

VOL. 7, NO. 14. *Employment and National Income during the War* : J. L. NICHOLSON. *The Planning and Control of Investment* : T. BALOGH.

VOL. 7, NO. 15. *Reflections on the Budget* : T. BALOGH. *The Changes in Income Tax* : J. L. NICHOLSON. *The Economic Situation in the Netherlands in Autumn, 1945* : J. TINBERGEN.

VOL. 7, NO. 16. *War-time Changes in Industrial Employment* : K. FORCHHEIMER. *The Problem of Inflation in Continental Europe* : J. STEINDL. *Food Consumption in North-western and Western Europe, 1943–4–5* : K. MANDELBAUM.

VOL. 7, NO. 17. *Proper Nutrition at Low Cost* : T. SCHULZ. *Manpower in the Reconversion Period in U.S.A. and U.K.* : F. A. BURCHARDT.

International Affairs.

APRIL 1945. *Dumbarton Oaks and the League ; some points of comparison* : F. P. WALTERS. *The Persistence of Individualism in the Theory of International Relations* : M. GINSBERG. *Some Aspects of Anglo-Soviet Relations* : M. BELOFF. *Truncation as a Means of Preventing German Aggression* : H. J. PATON. *Some Problems of the White Man's Return to South-East Asia* : G. W. SEABRIDGE. *The Impact of the War on British West Africa* : M. FORTES. *Organization and Development of Railway Transport in the U.S.S.R.* : T. S. KHACHATUROV. *Political Development in the Hadhramaut* : H. INGRAMS.

JULY 1945. *Practical Problems of Repatriation and Relocation :* BERTHA L. BRACEY. *The Function of Great and Small Powers in the International Organization :* G. KAECKENBEECK. *The Problem of Germany :* LORD VANSITTART. *The Reparation Problem :* A BRITISH ECONOMIST. *Politics and Economics in Latin America :* H. S. MACKINTOSH. *The Part of the Union in the Development of Africa :* G. H. NICHOLLS. *The International Industrial Situation and British Problems :* A. H. S. HINCHLIFFE. *Disposal of Italian Africa :* S. H. LONGRIGG. *The Future of the Bedouin of Northern Arabia :* W. G. ELPHINSTON. *Education and World Order :* SIR FRED CLARKE.

OCTOBER 1945. *Responsibilities of the Great Powers :* H. S. AGAR. *Reflections on the Foreign Policy of France :* R. ARON. *Yugoslavia in the Balkans and Central Europe :* S. PRIBICHEVICH. *International Economic Collaboration and the Economic and Social Council :* A. G. B. FISHER. *How Much can Germany Pay ?:* P. N. ROSENSTEIN-RODAN. *Austria before the Anschluss and a View of her Future Prospects :* SIR WALFORD SELBY. *India's Foreign Relations Now and in the Future :* SIR AUBREY METCALFE. *Civil Aviation : an historical survey :* H. STANNARD. *Transport Problems in Europe :* E. R. HONDELINK.

The Banker.

DECEMBER 1945. *Do Banks require More Capital ? :* F. W. FORGE. *Continental Banking. Insurance Survey.*

JANUARY 1946. *The Washington Agreement. Banking Trends of 1945.*

FEBRUARY 1946. *France at the Crossroads :* W. HILL. *Disclosure to Guarantors :* L. LE M. MINTY.

The Bankers' Magazine.

DECEMBER 1945. *The Passing Year. The Cheap Money Policy :* G. L. SCHWARTZ.

JANUARY 1946. *The Loan and Bretton Woods. Review of the Year and the Outlook for 1946.*

FEBRUARY 1946. *Banking Profits in 1945. A Plea for the Use of a More Scientific Basis in the Calculation of Bank Charges :* J. C. STICKLER.

Planning.

No. 242. *Retreat from Parenthood.*

No. 243. *High Stakes at Washington.*

No. 244. *A Complete Maternity Service.*

No. 245. *The Film in Schools.*

International Labour Review.

AUGUST–SEPTEMBER 1945. *The Industrial Committees of the International Labour Organisation. Social Policy in Occupied Czechoslovakia, 1938–1944 :* J. W. BRUEGEL. *Wartime Developments in the Indian Textile Industry. Family Allowances in France.*

League of Nations Monthly Bulletin of Statistics.

SEPTEMBER 1945. *Infant Mortality, 1921–1943.*

NOVEMBER 1945. *Netherlands : Vital, Economic and Financial Statistics (1939–1945).*

DECEMBER 1945. *Italy : Vital, Economic and Financial Statistics (1935–1945). Bulgaria : Miscellaneous Statistics (1945).*

Fabian Quarterly.

DECEMBER 1945. *Government Information Services :* S. TAYLOR. *British Overseas Publicity :* P. C. GORDON WALKER. *State Factories and Building Materials :* G. D. H. COLE and IAN BOWEN. *Public Corporations :* MARGARET A. ROOM.

The Canadian Journal of Economics and Political Science.

NOVEMBER 1945. *Training for Public Administration : a symposium :* R. H. COATS, K. GRANT CRAWFORD, C. H. BLAND and A. BRADY. *Hobbes Today :* C. B. MACPHERSON. *Public Investment in Canada :*

M. C. URQUHART. *Competition and Welfare:* H. S. ELLIS. *Collective Bargaining and the Competitive System:* C. E. LINDBLOM. *Arctic Survey: The New North-West:* C. A. DAWSON.

The South African Journal of Economics.

SEPTEMBER 1945. *Economic Incentives in the Post-war World:* C. S. RICHARDS. *The Economic Development of the Cape under van Riebeek, Part III:* H. M. ROBERTSON. *Full Employment and the Future of Industry:* W. H. HUTT. *Industrial Possibilities and Potentialities of Northern Rhodesia:* C. S. RICHARDS. *The Expansion of Manufacturing Industry in the Union:* W. J. BUSSCHAU.

The Indian Journal of Economics.

JANUARY 1946. *Some Thoughts on the Indian Food Problem:* A. I. QURESHI. *The Indian Food Problem:* R. V. RAO. *Post-war Currency System in India:* M. C. MALKANI. *Stabilisation of Prices—An Aspect of the Post-War Currency System in India:* K. N. BHATTACHARYA. *The Future of the Rupee:* N. V. SOVANI. *New Era in Railway Rates:* V. V. RAMANADHAM. *Transport Rates and Industrial Distribution:* R. BALKRISHNA. *A New Basis for Railway Rates—The Social Benefit of Service Principle:* M. H. GOPAL. *Some Aspects of Post-war Indian Currency:* M. S. ADISESHIAH. *The Post-war Monetary Issues in India:* G. CHAND. *Rail-Road Co-ordination with Special Reference to Rates Policy:* D. R. GADGIL. *Post-war Currency System in India:* S. K. IYENGAR. *India and the Sterling Area:* V. S. KRISHNA. *An Integrated Railway Rate Policy:* P. C. MALHOTRA. *Food Position in Orissa:* S. MISRA. *Post-war Currency System in India:* N. S. PARDASANI. *A Monetary System for India:* V. M. PARANJAPE. *Post-war Monetary System for India:* Y. G. SAHASRABUDDHE. *Food Planning in India:* S. S. RAJAN. *Future of Food Control in India:* D. L. GUPTA.

Sankhyā. (The Indian Journal of Statistics.)

VOL. 7, PART 2. NOVEMBER 1945. *The Logical Inversion of the Notion of the Random Variable:* R. A. FISHER. *The Individual Sampling Distribution of the Maximum, the Minimum and any Intermediate of the p-statistics on the Null Hypothesis:* S. N. ROY. *Distribution of Certain Frequency Constants in Samples from Non-normal Populations:* K. C. CHERIYAN. *Statistics and Social Values:* N. C. MEHTA. *Statistics in the Service of Planning:* R. K. MUKHERJEE. *Differential Rates of Natural Increase:* N. G. D. JOARDER. *Cost of Living Indices at Cawnpore:* S. P. SAKSENA. *The Cawnpore Mill-worker, His Family and His Expenditure:* J. K. PANDE. *Agricultural Co-operation in Bengal and Rest of British India (1918–19 to 1938–39):* T. GHOSE and H. SINHA. *On the Totality of the Solutions for the Symmetrical Incomplete Block Designs: $\lambda = 2, k = 5$ or 6:* Q. M. HUSAIN.

The Quarterly Journal of Economics.

NOVEMBER 1945. *Problems of European Reconstruction:* N. ROBINSON. *The Criterion of Maximum Profits in the Theory of Investment:* F. A. LUTZ. *Trade-Union Government: a formal analysis:* J. SHISTER. *Postwar Exchange-Rate Parities:* M. E. GARNSEY. *The Old-Age Reserve Fund is not "Illusory":* G. B. ROBINSON.

The Annals of the American Academy of Political and Social Science.

NOVEMBER 1945. *Building the Future City.*
JANUARY 1946. *Essential Human Rights.*

The Journal of Political Economy.

DECEMBER 1945. *The Theory of Optimum Population for a Closed Economy:* M. GOTTLIEB. *The Physiocrats and Say's Law of Markets. II:* J. J. SPENGLER. *Schumpeter on Capitalism, Socialism, and Democracy:* C. O. HARDY. *Deficiencies in the Gross-National-Product Concept as a National Measure:* J. MAYER.

The Review of Economic Statistics.

NOVEMBER 1945. *Price Control and Control of Inflation :* E. M. H. LLOYD. *World Prosperity and the British Balance of Payments :* R. HINSHAW and L. A. METZLER. *1944–1945 Programs for Postwar Social Security and Medical Care :* E. E. WITTE. *Postwar National Income :* MESSRS. MAYER, MOULTON, JACOBSTEIN and KIMMEL; R. S. TUCKER; E. E. HAGEN; and L. H. BEAN.

Journal of the American Statistical Association.

SEPTEMBER 1945. *Sequential Method of Sampling for Deciding between Two Courses of Action :* A. WALD. *On Training in Sampling :* W. E. DEMING. *Estimate of Series E Bond Purchases by Farmers :* A. S. TOSTLEBE. *Component Indexes as a Basis for Stratification in Sampling :* MARGARET J. HAGOOD and ELEANOR H. BERNERT. *Charts should tell a Story :* J. A. LIVINGSTON. *Internal Migration and Full Employment in the U.S. :* A. J. JAFFE and S. L. WOLFBEIN. *Attrition Life Tables for the Single Population :* W. H. GRABILL. *A Chart of the* χ^2 *and* t *Distributions :* J. F. CROW.

The American Economic Review.

SEPTEMBER 1945. *The Use of Knowledge in Society :* F. A. HAYEK. *"Model-Building" and Fiscal Policy :* A. G. HART. *Corporate Retained Earnings and Cyclical Fluctuations :* S. P. DOBROVOLSKY. *The Federal Trade Commission and "Unfair Competition" in Foreign Trade :* R. S. LANDRY. *Some Problems in the Development of the Communications Industry :* CARRIE GLASSER. *A Graphical Analysis of Personal Income Distribution in the United States :* M. J. BOWMAN.

Econometrica.

OCTOBER 1945. *Stability of Multiple Markets : The Hicks Conditions :* L. A. METZLER. *A Theory of General Short-Run Equilibrium :* D. M. FORT. *Multiplier Effects of a Balanced Budget :* T. HAAVELMO. *Measuring Marginal Utility by Reactions to Risk :* W. VICKREY. *Liquidity Preference of Large Manufacturing Corporations (1921–1939) :* A. KISSELGOFF.

Social Research.

NOVEMBER 1945. *The Crisis of German Protestantism :* C. MAYER. *Industrial Relations and the Curriculum :* P. BRADLEY. *Economic Possibilities in the Mountain Regions:* H. NEISSER. *The Nature of Scientific Method :* F. KAUFMANN. *Some Critical Remarks on Man's Science of Man :* K. RIEZLER.

The Journal of Economic History.

NOVEMBER 1945. *The "Railroad Scheme" of Massachusetts :* E. C. KIRKLAND. *Early Examples of Marine Insurance :* FLORENCE EDLER DE ROOVER. *Isaac Bronson : His Banking Theory :* A. H. VENIT. *Historical Explanation of Land Use in New Zealand :* A. H. CLARK.

Journal of Farm Economics.

NOVEMBER 1945. *A Price Policy for Agriculture, Consistent with Economic Progress, that will promote Adequate and More Stable Income from Farming. Award Papers by* W. H. NICHOLLS, D. GALE JOHNSON and F. V. WAUGH. *Wartime Experience in Production Adjustment Research and Future :* N. W. JOHNSON. *Mechanization of the Cotton Harvest :* F. J. WELCH and D. GRAY MILEY. *A Critical Examination of Marketing Research :* F. L. THOMSEN. *Analyzing Labor Requirements for California's Major Seasonal Crop Operations :* MARGOT W. LENHART.

Foreign Affairs.

OCTOBER 1945. *The United Nations : The General Assembly :* J. F. DULLES; *The Security Council :* R. K. KANE. *America at War : Victory in the Pacific :* H. W. BALDWIN. *Flying Bombs and Rockets : This Time and Next :* N. TANGYE. *The Critic Turns Actor :* J. B. RESTON. *The Other China :* G. STEIN. *The New World Court :* M. O.

HUDSON. *Imports in the American Economy:* P. W. BIDWELL. *The American System and the World Organization:* E. PADILLA. *Bagehot and the Fresh Eye:* B. DEXTER. *Toward Arab Unity:* H. A. R. GIBB. *Education for Self-government:* MARGERY PERHAM. *Russia and China in Outer Mongolia:* F. S. MANSVETOV. *A New Constitution for Ceylon:* A. VANDENBOSCH.

Review of Social Economy.

VOL. III, No. 1, 1945. (*Papers and Proceedings of the Third Annual Meeting of the Catholic Economic Association, Chicago, December 1944.*) *Some Economic Aspects of European Relief and Rehabilitation:* RT. REV. MSGR. J. A. RYAN. *Economics of the Transition to Peace under Military Government:* R. J. SAULNIER. *The White Paper on Employment Policy:* A. MACDOUGALL. *How Many Jobs must we Provide for a Balanced Postwar Economy?:* C. J. COURTNEY. *Public Policy and Postwar Employment in the United States:* H. J. WIRTENBERGER. *Philosophy Behind New Zealand's Social Policy:* E. G. BUCKTON.

Transactions of the American Philosophical Society.

VOL. XXXV, PART I. *Purveyance for the Royal Household in the Reign of Queen Elizabeth:* ALLEGRA WOODWORTH.

The Bureau of Business Research.

BULLETIN No. 11. *The Kentucky State Budget System:* J. W. MARTIN and VERA BRISCOE.

Revue de l'Institut International de Statistique.

No. 12, PARTS 1/4. *Colin Clark's "Economics of 1960":* J. TINBERGEN. *Die Lebensjahre einer Bevölkerung. Bemerkungen zu Liebmann Hersch's "Potentiel-vie":* W. WINKLER. *Quelques précisions sur la méthode des potentiels-vie et ses notions fondamentales:* L. HERSCH. *La statistique méthodologique italienne de 1939 à 1942:* G. PIETRA.

VOL. XXX, PART 1. *Bulletin de l'Institut International de Statistique. Session de Prague, 1938.*

Revue d'Économie Politique.

JANUARY–FEBRUARY 1945. *La théorie de Keynes après neuf ans:* J. R. HICKS. *Le problème monétaire en France depuis la libération:* G. PIROU. *Note sur la théorie du multiplicateur des effets d'investissement:* E. GIRARDEAU.

MARCH–DECEMBER 1945. *Une agence de commerce extérieur sous la Convention (d'après des documents inédits):* R. MAYER. *Le rôle économique des syndicat financiers:* J. TCHERNOFF. *Réflexions sur l'intérêt, l'épargne et l'investissement. À propos de la théorie générale de J. M. Keynes:* P. DERVAUX. *Remarques sur le principe: "Autant d'équations que d'inconnues" appliqué aux théories de l'équilibre économique:* P. ROCHER.

Schweizerische Zeitschrift für Volkswirtschaft und Statistik.

DECEMBER 1945. *Endettements, production, compréhension économétrique:* A. AMSTUTZ and A. BORLOZ. *David Laurie. Ein verschollener Klassiker der Vollbeschäftigungstheorie:* E. BÖHLER. *Ein neues soziologisches Schema (Schluss):* A. GRABOWSKY. *Das Problem des Realtransfers bei Kapitalexport und Kapitalheimschaffung:* J. J. SCHWENTER.

Moneda y Crédito (Madrid).

No. 14, SEPTEMBER 1945. *La construcción naval española en la postguerra:* A. MIRANDA. *Sociedades anónimas y publicidad:* A. G. ORBANEJA. *Ballesteros, en Hacienda (1823–1832):* R. CARANDE. *Sobre algunos problemas de la ley de Desbloqueos:* H. P. EGUILAZ. *La Banca española en el trienio 1942–1944:* I. C. GARRIGOS.

Ekonomisk Tidskrift.

DECEMBER 1945. *Changing Outlook and Critical Position of Agriculture:* J. FROEDIN. *The Inflation Problem in Finland:* K. WARIS. *The*

Railway Freight Structure and the Effect of Competition between Road and Rail Transport : A. SJOEBERG. *A Theoretical Study of the Transport Problem* : N. E. EHRNROOTH.

Index.

SUPPLEMENT, SEPTEMBER 1945. *The Forest and Forest Industries of Norrland* : G. LÖWEGREN.

SUPPLEMENT, DECEMBER 1945. *From Bretton Woods to Full Employment* : D. HAMMARSKJÖLD.

No. 166. DECEMBER 1945. *Economic Survey. 15th September–15th December.*

SUPPLEMENT. *Sweden's International Credit Accommodation in 1944 and 1945* : D. HAMMARSKJÖLD.

Skandinaviska Banken Aktiebolag.

JANUARY 1946. *The Functions of Prices in the Melting-Pot* : E. LUNDBERG. *Consolidation of Joint Stock Companies* : O. SILLEN. *Prospects for Fruit-Growing in Sweden* : F. NILSSON. *The Share and Bond Markets during the War* : *The Economic Situation during the Fourth Quarter of 1945.*

NEW BOOKS.

British.

ABBATI (A. H.). Towards Full Employment. London : Simpkin, Marshall, Ltd., 1945. 7″. Pp. 71. 2*s.* 6*d.*

[Since Mr. Abbati first wrote *The Unclaimed Wealth* in 1924, economic thought has moved in the direction of the ideas that he was supporting. The broad conclusions of his present pamphlet are closely in accord with current orthodoxy. He holds that unemployment is due to a general buying deficiency in relation to productive capacity; that the Government should maintain outlay equal to productive capacity by suitable variations of taxation and Government expenditure; that to prevent consequential debits in the foreign balance there must be control of imports and exports; that agriculture must be improved and brought into better balance with industry.]

ABRAMS (M.). The Condition of the British People, 1911–1945. London : Victor Gollancz, 1945. 7½″. Pp. 119. 6*s.*

[To be reviewed.]

BARNA (T.). Profits during and after the War. London : Fabian Publications and Victor Gollancz, 1945. 8″. Pp. 25. 1*s.*

[An excellent simple statement of the statistical background to the problem of the relative shares of wages and profits in the national income.]

BAYKOV (A.). The Development of the Soviet Economic System. Cambridge : University Press, 1946. 8½″. Pp. xv × 514. 30*s.*

[To be reviewed.]

BLACKER (C. P.). Eugenics in Prospect and Retrospect. London : Hamish Hamilton, 1945. 7″. Pp. 33. 1*s.* 6*d.*

[The 1945 Galton Lecture.]

Beatrice Webb, 1858–1943. London : Geoffrey Cumberlege, 1945. 10″. Pp. 27. 3*s.* 6*d.*

[A reprint of an obituary notice published in the Proceedings of the British Academy.]

CHARLES (E.). Freedom from Want. The International Aspect. London : Royal Institute of International Affairs, 1945. 7″. Pp. 59. 1*s.*

[This pamphlet deals with the policies and organisations that will be necessary to give practical effect to the agreements reached at Hot Springs, Bretton Woods, and Philadelphia.]

Charles Francis Bastable, 1855–1945. London: Geoffrey Cumberlege, 1945. 10″. Pp. 4. 1s. 3d.

[A reprint of an obituary notice published in the Proceedings of the British Academy.]

COOMBES (B. L.). Miners Day. Harmondsworth: Penguin Books, 1945. 7″. Pp. 128. 9d.

[A vivid autobiographical account by a working coal-miner of his life, conditions and thoughts.]

CRICK (W. F.). Thirty Years of Monetary Change, 1914–1945. London: Institute of Bankers, 1945. 8″. Pp. 16.

[A lecture to the Institute of Bankers. Mr. Crick summarises the trends of the thirty years as "a progressively closer integration of public and private finance and . . . the subordination of financial to economic policy."]

DOBOSZYNSKI (A.). The Economics of Charity. London: Mildner & Sons, 1945. $6\frac{1}{2}$″. Pp. 123. 4s. 6d.

[This is a translation of a book which had a large circulation in Poland just before the war. It represents an attempt to write a Catholic economics, built on the writings of St. Thomas Aquinas and on the various Encyclicals that have dealt with economic problems. But the book includes hard economic thinking in economic terms, which leads the author to the general conclusion that economics is drifting back from the darkness of the nineteenth century towards Catholic tenets.]

DONINGTON (HELEN). The Care of Homeless Children. London: Fabian Publications and Victor Gollancz, 1945. 8″. Pp. 32. 1s.

[A study of the various bodies which deal with difficult and delinquent children. More coordination in their services, better pay for the men and women workers, with greater opportunities for keeping themselves abreast of modern developments in the field of child psychology, are among the recommendations made.]

FABIAN RESEARCH GROUP. Cotton, a Working Policy. London: Fabian Publications and Victor Gollancz, 1945. 8″. Pp. 21. 6d.

[This is a first-rate short study. The authors accept that the cotton industry is not to be nationalised and examine the problem of how it is to be made efficient and solvent. They make it clear that not all planning is good planning, and show the strongest dislike for methods which would create a permanent monopoly, with minimum prices, under which inefficiency could shelter. They believe that, even if the manufacturing sides of the industry remain capitalistic, there may be proper functions for the State in buying and distributing at reasonable but cheap prices.]

FARMER (C.). Currency Reform. The Key to Progress. Nottingham: J. & H. Bell, 1945. $8\frac{1}{2}$″. Pp. 29. 1s.

[It is argued that the trade cycle, though not necessarily monetary in origin, "is induced by factors which prevent a natural equilibration of supply and demand, such as would take place under a barter economy." It is suggested that certain currency reforms would remedy this defect.]

HOBSON (OSCAR). Future of the City. London: Institute of Bankers, 1946. 8″. Pp. 15.

[A lecture delivered before the Institute of Bankers. Mr. Hobson dealt mainly with the repercussions upon other institutions of the nationalisation of the Bank of England.]

JACKSON (W. E.). Local Government in England and Wales. Harmondsworth: Penguin Books, 1945. 7″. Pp. 218. 9d.

[This is a popular account by the Assistant Clerk of the L.C.C. of the purposes, functions, methods, sources of revenue of and controls exercised over Local Authorities. The author ends with a discussion of former and present trends and of the problems of staffing that they will involve.]

LYNDEN (BARON R. A. DE). If Money were Understood. London: Hutchinson & Co., 1945. 7″. Pp. 96.

[The author—a Dutchman—maintains that "profit and competition are

indispensable co-ordinating stimuli in communities which are dominated by the belief in evolution through material progress and in which the individual counts for more than a tool of the State. At the same time the instinct of self-preservation drives the individuals, groups of individuals within communities, and communities in respect of other communities to hold on to any institution or device which may safeguard or improve their respective economic status." . . . "It was not *laisser-faire* but mismanagement of money and credit [that was] . . . more responsible than anything else for the chaos in world economy." The author goes on to discuss how a monetary system can be perfected.]

MANDELBAUM (K.). The Industrialization of Backward Areas. Institute of Statistics, Monograph No. 21. Oxford : Basil Blackwell, 1945. 9″. Pp. viii × 111. 10*s*. 6*d*.

[To be reviewed.]

MITCHELL (JOAN). The British Gas Industry, Present and Future. London : Fabian Publications and Victor Gollancz, 1945. 8″. Pp. 32. 1*s*.

[After a general description of the present scale and organisation of the industry, and of its wide disparities of size and efficiency this pamphlet recommends a Central Gas Board, with Regional Boards under it, to take over and operate the industry.]

MUKERJEE (RADHAKAMAL). The Indian Working Class. Bombay : Hind Kitabs, 1945. 8½″. Pp. xvii + 336. Rs.12.8.

[Prof. Mukerjee begins by emphasising the war-time growth of Indian industrial production and the consequence with it of a much larger class of skilled and semi-skilled industrial workers. At the same time far longer hours, worse conditions, and low wages have raised problems of industrial relations which have not been solved. Prof. Mukerjee describes methods of labour recruitment, labour turn-over, conditions of work, rates of wages in different sections of industry, and also such general questions as the average standard of living of workers, housing, social welfare, trade unionism and industrial peace. The wages, standards and conditions generally will come as a shock to any English reader.]

MURANJAN (S. K.). Economics of Post-war India. Bombay : Hind Kitabs, 1945. 8″. Pp. 98. Rs.3.8.

[The need to raise Indian standards of life is made manifest in such books as Prof. Mukerjee's, noted above. The Bombay Plan, a year or two back, represented a first outline of such an effort. Dr. Muranjan has written a book which reminds readers of the difficulties. Can one provide adequate incentive to save on the scale that would be necessary ? Is there an adequate supply of competent and morally unimpeachable personnel to run it ? Can it be financed ? The last is the most difficult question of all. Dr. Muranjan is sceptical of the possibilities of considerable forced saving through inflation. He does not warn his readers that " hoarded wealth " in the form of gold or silver does not add to the volume of current savings unless it is used to buy assets abroad. He does, however, warn them that not all sterling assets will be available, since some reserves will be necessary. He would have done well to point out the practical limitations from the British end to any attempt to reduce drastically over a short period the war-time accumulations of sterling. On agriculture he has much that is wise to say, and he feels that it has been neglected in the Plan. The necessary improvements imply a considerable change in organisation, size of holdings, technical methods and the twin problems of irrigation and inland waterways. Against this background, the author considers the wider problems of investment markets, money and credit systems, interest rates, banking, foreign exchanges and the trade balance.]

MURRAY (GILBERT). Third Montague Burton Lecture on International Relations. " Victory and After." Leeds University : The Registrar, 1945. 8½″. Pp. 15. 6*d*.

[This represents the third Montague Burton Lecture on International Relations, delivered at the University of Leeds on June 1, 1945, shortly after the surrender of Germany.]

Palestine Controversy : a symposium. London : Fabian Publications and Victor Gollancz, 1945. 8″. Pp. 37. 1*s*. 3*d*.

[This pamphlet, after an introduction by H. N. Brailsford, begins with two

statements of the irreconcilable claims, first at the World Zionist Conference, 1945, second of the present Arab attitude. This is followed by a section entitled *A Possible Way Out* by Dr. James Parker, who argues that in view of their relative opportunities elsewhere the Jews rather than the Arabs should be given preference in Palestine and the chance to create a prosperous Jewish Palestine which might enrich not only itself but also the neighbouring Arab territories. To this Sir Edward Spears replies; Captain David Hopkinson puts forward a different view; Prof. Magnes argues the case for Jewish and Arab co-operation.]

PARKES (J.). An Enemy of the People: Anti-semitism. Harmondsworth: Penguin Books, 1945. 7". Pp. 150. 9*d.*

[Mr. Parkes argues that anti-semitism is really a rallying point of all reactionaries—of those that hate "liberalism," "industrialism," "secularism"—"they found by experience that there was no better way of persuading the electors to dislike these things also than to label them 'Jewish'."]

POOLE (H. E.). Going Well. Cambridge: Eastern District of the Workers' Educational Association, 1945. 8". Pp. 62. 1*s.*

[This is a record of the W. E. A. in the Eastern District, from 1938 to 1944.]

SCHWARZENBERGER (G.). International Law. Vol. I. International Law as applied by International Courts and Tribunals. London: Stevens & Sons, 1945. 9½". Pp. xliv + 645. £3.

[This is the first of three volumes (the two volumes still in preparation will deal respectively with British State practice, and the decisions of courts of Great Britain and the British Empire). Whereas most text-books on international law use court decisions and State practice merely to illustrate general principles, the author of this new treatise is attempting "to build up a system of international law in a way which is familiar to Anglo-Saxon lawyers from their own national systems of law, *i.e.* by the use of the inductive method." The present volume is, therefore, an exposition of international law, broken down under orthodox headings, but derived almost entirely from the pronouncements of international courts and tribunals, particular attention being given to the judgments of the Permanent Court of International Justice. The text is copiously interlarded with citations from judgments and awards, but it is not a case-book (although a very few selected cases and documents are printed in appendices). It is a little difficult to see what kind of reader the author has particularly in mind. Practitioners and advanced students who have been trained in the common law will be shy of the many extracts from judgments that too often are not accompanied by any exposition of the *facts* of the case. On the other hand, if the book is intended for undergraduates it is not without its dangers. The case-method of teaching is, of course, a familiar one and has been used with great success, especially in American universities. But the essence of the method is to compel students to go directly to the reports for their law; to present them with ready-made "inductions" illustrated by gobbets from judgments is to deprive the method of the stern discipline which is its chief virtue However, there is no doubt that, properly used as a guide to the reports, this volume will be a useful addition to the shelves of any international lawyer who can afford to buy it.]

STEINDL (J.). Small and Big Business. Economic Problems of the Size of Firms. Institute of Statistics, Monograph No. 1. Oxford: Basil Blackwell, 1945. 9". Pp. v × 66. 7*s.* 6*d.*

[To be reviewed.]

Strategic Colonies and Their Future. London: Fabian Publications and Victor Gollancz, 1945. 8½". Pp. 36. 1*s.* 6*d.*

[This pamphlet deals with the special problems of Hong Kong, Gibraltar, Malta and Cyprus.]

WEST (R.). Psychology and World Order. Harmondsworth: Penguin Books, 1945. 7". Pp. 125. 9*d.*

[The book starts with an analysis from the psychological standpoint of the growth of groups and nations and of the processes of achieving order through law. It goes on to discuss international psychology, perversions of national ideologies, and ends with hopes for the future; the author is not without hope that, if people can be brought to write internationally, we may evolve a system of government that can keep the peace.]

WOOTTON (BARBARA). Freedom under Planning. London: Allen & Unwin, 1945. 7½". Pp. 163. 6s.

[To be reviewed.]

American.

THE AMERICAN JEWISH COMMITTEE. The American Jewish Year Book. Volume 47. Philadelphia: The Jewish Publication Society of America, 1945. 7". Pp. xxx + 760.

[A review of the year 1944–45, as it affects Jews all over the world. It includes articles on immigration, refugee aid, relief and rehabilitation and similar problems.]

BALLAINE (W. C.). The Problem of Stable Exchange Rates. Eugene, Oregon: Bureau of Business Research, School of Business Administration, University of Oregon, 1945. 9". Pp. 54. 50 cents.

[This is a statement, in extremely elementary terms, on the problems of exchanges. But the author does not succeed in explaining convincingly why, believing in free markets for goods, he does not believe in a free and continuously adjustable market for foreign currencies. Granted it is convenient to be able to foresee the course of exchange rates, but methods of providing security against the effects of fluctuations existed in such organisations as the cotton futures market. And it is at least arguable that flights from currencies are stimulated by divergences between the administered rate and the rate that would currently be determined by the market. Such statements as "the argument in favour of currency stability is that over a long period of time it will lead to higher living standards all over the world" need a more solid foundation of proof than the author provides.]

BLOOMFIELD (A. I.). The British Balance-of-Payments Problem. Princeton, New Jersey: International Finance Section, Department of Economics and Social Institutions, Princeton University, 1945. 9". Pp. 28.

[This short statement of the British position was prepared some little time back, but only published when the recent discussions again brought these problems into the lime-light. It adds little to our statistical knowledge—the more so since the publication of some of the statistical material presented by Lord Keynes in Washington. But its temperate, realistic and constructive treatment of the problem is of great value. Perhaps to an English reader the most interesting sections are those at the end in which the author emphasises the long-term difficulties of Britain, and the need for drastic revision of our ideas of industrial efficiency if we are to win through.]

FABRICANT (S.). Labor Savings in American Industry, 1899–1939. New York: National Bureau of Economic Research, 1945. 9". Pp. 51. 50 cents.

[The average reduction, 1899–1939, in workers per unit of product, over the whole field of extraction, fabrication, power production, transportation and communication has been 58%, or allowing for reduction of hours 65%. And these figures underestimate in not allowing for improvements of quality or of the economies with which the fuel produced can now be used. Dr. Fabricant's paper shows the great variations in improvement in different industries and over different periods.]

GRINSTEIN (H. B.). The Rise of the Jewish Community of New York, 1654–1860. Philadelphia: The Jewish Publication Society of America, 1945. 8½". Pp. xii + 645. $3.00.

[An account of the growth of the Jewish community in New York in all its aspects—the synagogues, the religious practices, the social welfare, the social life, the culture, Americanisation, education of the group.]

HALM (G. N.). International Monetary Cooperation. Chapel Hill: University of North Carolina Press (Oxford University Press), 1945. 9". Pp. vi + 355. 24s.

[To be reviewed.]

MAYO (E.). The Social Problems of an Industrial Civilization.

Harvard University: Division of Research, Graduate School of Business Administration, 1945. 8". Pp. xvii + 150. $2.50.

[To be reviewed.]

MERING (O. VON). The Shifting and Incidence of Taxation. Philadelphia: Blakiston Company, 1942. 8½". Pp. xiii + 262. $3.25.

[A treatise on principles of tax shifting, largely built on the author's earlier work "Steuerüberwälzung," published in 1928 in Jena. Mr. Mering attempts to give a systematic discussion of tax shifting in the light of recent theoretical development. This, however, takes the form of organizing into a system the views of different authors, as well as his own, rather than of developing a general theory of tax shifting and trying to apply this to different cases. In his view "whether and to what extent taxes may be shifted depends on the degree to which supply and demand may be restricted *with advantage*" (the author's italics, a somewhat obscure concept), but he adds that this proposition is submitted by him "rather as a concession to the desire for a general rule than from the conviction that it will do more than circumscribe the process in a very general way." The most valuable part of the book is Chapters II–VII in which, starting with the simple exchange (one buyer, one seller, one indivisible good) the author discusses a great many special cases of tax shifting under pure monopoly, pure competition and—to lesser extent—monopolistic competition. This part of the book is packed with innumerable interesting charts, especially useful for the student. The second part of the book deals with the shifting of particular taxes. This part is necessarily less comprehensive. It suffers also from difficulties due to the narrow definition of tax shifting. In the author's view the subject matter of the theory of tax shifting are "the economic effects which follow from the moment of the impact of the tax until the ultimate incidence of that tax." He is aware of the "further effects" which may follow in time and of the difficulty of demarcation, and he deals with the general repercussions of taxation. The shortcomings of any demarcation are most obvious in such cases as general income tax; especially as in this case the tools developed by the author in Part I of the book prove to be not very helpful for an adequate discussion of the subject. This is more a book for the student of the principles of public finance than a study for the administrator or politician formulating tax policies.]

METZ (H. W.). Labor Policy of the Federal Government. Washington, D.C.: Brookings Institution, 1945. 9". Pp. ix + 284. $2.50.

[To be reviewed.]

WALLACE (HENRY A.). Sixty Million Jobs. New York: Simon and Schuster, 1945. 11". Pp. 83. Cloth $2.00. Paper $1.00.

[Reviewed in this issue.]

French.

ALLAIS (M.). Économie Pure et Rendement Social. Paris: Librairie du Recueil Sirey, 1945. 9". Pp. 72.

[Prof. Allais has succeeded in writing a competent and interesting monograph on the maximisation of the social net product, which deserves the attention of scholars. It is, perhaps, a little surprising that although he shows a familiarity with much of the recent English writing on this subject, both as represented by Profs. Hayek and Mises and by such writers as Dickinson, Dobb and Durbin, he makes little or no reference to the work of Prof. Pigou and shows no knowledge of the article on this subject by Mr. Kahn in the ECONOMIC JOURNAL. His general conclusions are that the ideal distribution of resources are achieved by perfect competition of autonomous units in a perfect market. He is not, perhaps, sufficiently concerned either with problems of increasing returns or with those involved in marginal distribution of income.]

Échanges Internationaux. Paris: Centre des Jeunes Patrons, 1945. 8". Pp. 44. 20 f.

[This "Document" includes two studies: the first, by Maurice Voreux, is a general examination of the rôle of the State and the market in foreign exchanges; the second, by François Perroux, is an examination of France's post-war balance of payment problems.]

GUIGNABAUDET (P.) La Monnaie rationnelle. Paris: Librairie Plon, 1944. 9″. Pp. 585.

[This is the first half of a large study. The present volume deals with internal monetary problems.]

JACQUIER-BRUÈRE. Demain la Paix. Esquisse d'un ordre international. Paris: Librairie Plon, 1945. 7½″. Pp. 178.

[" Aucune politique de redressement national ne peut plus être imaginée en dehors d'un cadre international. . . . Il est encore permis à un pays de se perdre par les propres fautes. Il ne peut plus se sauver par ses seuls mérites."]

LACOUR-GAYET (J.). Platon et l'Économie Dirigée. Paris: L'Imprimerie Union, 1945. 9″. Pp. 42.

[The author points to the interesting analogies between the economic system conceived by Plato and the methods employed in Germany and improved on in France in 1940.]

PERROUX (F.). Les Accords de Bretton Woods. Paris: Éditions Domat-Montchrestien, 1945. 7″. Pp. 71. 40 f.

[" Bretton Woods est un accord minimum sur une technique monétaire et financière. Aussi—et surtout?—le signe des progrès d'une conception déterminée de la vie internationale."]

Dutch.

SICKESZ (W. C.). New World Economy. Vol. I, Parts I and II. Amsterdam: Holdert & Co., 1945. 9½″. Pp. 266.

[The author believes that a new world economy should be erected on three basic foundations: adequacy of purchasing power; rising turn-over; multiplicity of the money circulation.]

Spanish.

EGUILAZ (H. P.). Una nueva relación funcional. El multiplicador de expansión. Madrid, 1945. 9½″. Pp. 12.

[The author (who is General Secretary of the Board of National Economy of Spain) argues that, though in theory an increase of investment and activity can take place without increase of money and credit, in practice it is the expansion of credit and the increase of the monetary circulation that usually stimulates industrial activity. He sets out to ask what initial stimulus results in what rise of the real national income—this concept is different from those advanced by Lord Keynes and Mr. Kahn. His paper gives the results of applying his methods to Germany and the U.S.A. The multiplier of expansion varies so enormously from year to year that it would hardly be possible to use it *ex-ante* as a basis of forecasting, and the author would not seem to claim that possibility.]

Swiss.

BACHMANN (H.). Die Konventionen von Bretton Woods. St. Gallen: Verlag der Fehr'schen Buchhandlung, 1945. 8½″. Pp. 140.

[This book provides a German text of the Bretton Woods agreements and an introductory study which considers the proposals both in general terms and as they affect small nations, and particularly Switzerland.]

Die Schweiz als Kleinstaat in der Weltwirtschaft. St. Gallen: Verlag der Fehr'schen Buchhandlung, 1945. 8″. Pp. xvi + 362. 15 S.f.

[To be reviewed.]

Official.

BRITISH.

Careers for Men and Women Series, No. 42. University Graduates summary of possible openings. London: Ministry of Labour and

National Service (Obtainable from H.M. Stationery Office), 1945. 8″. Pp. 60.

[This pamphlet sets out to give short summaries of possible openings in different careers, some included in other pamphlets in the Series, others exclusively dealt with in this. Among the latter are economics and statistics. The section on economics is rather disappointing. There would seem to be a confusion between the appropriate training for a professional economist and an examination of the professions for which economics is an appropriate training. The employment of university trained economists on work for which a degree in economics is a necessary training is very much wider than is implied by "academic training and research, both of which have been largely centred on the universities." Indeed the final section on "Opportunities for Employment" belies that statement. The Section that deals with statistics is on the whole much better done, though some will question the statement that "while an aptitude for mathematics is a definite asset, it must not be forgotten that the statistician is concerned with the analysis and interpretation of the available facts for which good judgment and a wide knowledge of the field are necessary." An aptitude (as distinct from the highest possible skill) is surely a *sine qua non*, and the necessary powers of analysis should in most cases be developed by the appropriate professional training in the basic subject.]

The Impact of the War on Civilian Consumption in the United Kingdom, the United States and Canada. London: H. M. Stationery Office, 1945. 9½″. Pp. 163. 2*s*. 6*d*.

[To be reviewed.]

AMERICAN.

Investment per Job. The Case of Gastonia, North Carolina. Washington D.C.: Chamber of Commerce of the U.S.A., 1945. 9″. Pp. 16. 5 cents.

[This investigation shows, for a typical small U.S. town, the cost in investment for each worker to find employment in the various industries and services of the town. The average for the town was about $7,000.]

SWISS.

Bank for International Settlements. Fifteenth Annual Report, 1st April 1944—31st March 1945. Basle, 1945. 11½″. Pp. 158.

[To be reviewed.]

LEAGUE OF NATIONS.

Commercial Policy in the Post-war World. Geneva: League of Nations (London: Allen & Unwin), 1945. 9″. Pp. 124. 5*s*.

[To be reviewed.]

Report on the Work of the League during the War. Geneva: League of Nations (London: Allen & Unwin), 1945. 9½″. Pp. 167. 2*s*.

[When the progress of the War in 1940 made it clear that the normal activities of the League could not be continued, it was decided to concentrate on maintaining the Economic Intelligence Service, studying the experiences over twenty years of the Economic and Financial Organisation, and keeping intact the Organisation itself and the Committee System. This volume gives a record of the work that proved possible. Both in the field of preparatory thinking for post-war problems and in social progress it has been far greater than could have been hoped.]

World Economic Survey, 1942–44. Geneva: League of Nations (London: Allen & Unwin), 1945. 9″. Pp. 292. 10*s*.

[To be reviewed.]

THE ECONOMIC JOURNAL

JUNE, 1946

JOHN MAYNARD KEYNES

THE death of Lord Keynes is a loss, the full immensity of which we cannot yet begin to measure, to the world, to Britain, to his friends, and not least to economics and to the Royal Economic Society.

The world has lost one of the very few with the imagination, courage and leadership needed to restore civilisation and build a firm economic base for peace and happiness. Britain has lost the chief architect of the economic policy which made victory possible, her chief advocate in economic negotiations, the brain which more than any other was shaping her economic future. His friends have lost one who embodied for them not only all that was finest in liberal civilisation and learning, but also all that was firmest in moral strength, human affection and intimacy. Economics has lost the inspiration of one who for a generation has been the centre of every controversy, the fountain of new ideas, the iconoclast who destroyed to build better, the thinker who more than any other in the history of our science has helped to make man master of his fate.

In the Royal Economic Society he was Editor of the JOURNAL from 1911 to 1944, Secretary from 1913 to 1944, and its President at his death. The present generation of Fellows have never known the Society without him as its central figure. To him we owe our strength and prosperity.

We plan to devote a later issue primarily to a memorial of his many-sided genius. We print in this issue the last article that he wrote, inspired by the desire that we in Britain should the more clearly understand one of the problems that confronted his friends in the United States.

R. F. H.
E. A. G. R.

THE BALANCE OF PAYMENTS OF THE UNITED STATES

The recent proposals for financial and economic agreements with the United States have raised doubts in many quarters on two largely distinct matters. The first relates to our capacity to achieve an adequate increase in the volume of our exports. The second relates to America's capacity to accept goods and services from the rest of the world on a scale adequate to secure a reasonable equilibrium in her overall balance of payments. Both these issues relate to the position of ourselves and of the United States respectively in relation to the rest of the world taken as a whole. On the assumption, however, that the International Monetary Fund and other supporting arrangements will be successful in establishing multilateral clearing of current transactions over a wide area, bilateral equilibrium will be achieved between the United Kingdom and the United States, if the two conditions are fulfilled that British exports of goods and services to the rest of the world as a whole reach an appropriate level and that American imports of goods and services from the rest of the world as a whole reach an appropriate level. If these conditions are satisfied, there will be no necessity for a strictly bilateral balance between the two countries taken in isolation.

This article is solely concerned with the available statistics relating to the second of these two problems—namely, the balance of payments of the United States. It is dangerous in this, as in many other contexts, to project pre-war statistics into the so greatly changed post-war world. But some current conclusions on the matter may be based too much on general impressions and too little on an examination of the details, with the result that the problem is not seen in the right perspective, that the orders of magnitude involved are not rightly apprehended, and, as a result, that the difficulties ahead of us are exaggerated. The object of this article is not to make definite predictions, but to bring out some of the data which are required for an informed judgment, as the prospects of the future gradually unfold themselves.

Let us begin with the figures of the pre-war position. The favourable balance of the U.S. year by year from 1930 to 1938 on all current transactions ran as follows :—

	$ million.		$ million.
1930	+735	1935	−156
1931	+175	1936	−218
1932	+159	1937	− 31
1933	+108	1938	+967
1934	+341		

Thus it is a mistake to suppose that the United States had an enormously favourable balance on current account. If the nine-year period is broken up into three-year periods, the average favourable balance works out at $356 million, $98 million and $239 million. The average for the whole period—namely, $231 million—is very much the same as it was for the latest triennium. Moreover, if the first and last years of the period are left out, it will be seen that during the intervening seven years, which included the slump, the United States current balance of trade broke about even. Even with the inclusion of the first and last years the average favourable balance of the United States on current account before the war was much less than the favourable balance earned by the United Kingdom (at a much lower price level) at the time when we were building up our overseas investments; and it was about the same as our own favourable balance as recently as 1923–29, when our own average surplus was $374 million. The general impression to the contrary is based partly perhaps on the figure of the most recent pre-war year—namely, 1938—but mainly, I think, on a confusion between current movements and capital movements. The pressure on the rest of the world from 1930 onwards was due to a large-scale capital movement from Europe to America being superimposed on a substantial, but not unwieldy, balance on current account. The serious consequences to the rest of the world flowed from the anomaly of a country with a substantial favourable balance being simultaneously the recipient of investible funds from abroad. Most countries, however, have now armed themselves with precautionary powers against the repetition of undesirable and useless capital movements of this character. The influence of the Bretton Woods plan is, of course, against a future repetition of this experience. Surely we now have means to avoid it.

Nor is it the case that in times of depression in America imports always fall off on a great scale relatively to exports. The statistics of the decade before the war show that, on the whole, industrial production, exports and imports tend to move together. The common opinion on this matter is based too exclusively on the experience of 1938 (1939, being a war year for the rest of the world, cannot be used as a basis for the argument) compared with 1936 and 1937. The movements are shown in Table I.

All that can be said on the other side is that these figures do not show what would happen in a period of slump in the United States and of full employment in the rest of the world. This, however,

TABLE I

Indices of U.S. Industrial Production, Imports and Exports

(1935–39 = 100)

	1930.	1931.	1932.	1933.	1934.	1935.	1936.	1937.	1938.	1939.
Industrial production . .	91	75	58	69	75	87	103	113	89	109
Imports . .	129	89	56	61	70	87	102	130	83	98
Exports . .	134	85	56	59	74	80	86	117	108	110

Notes.—Figures for industrial production are the Federal Reserve Board unadjusted index (1935–39 = 100). The import and export indices have been calculated on the same basis.

involves an *a priori*, not a statistical, argument, which would lead us on to the question just what difference in such circumstances the proposed financial and economic agreements would make. I am limiting myself here to the statistical evidence and to conclusions purporting to be based on it.

Perhaps the most mistaken and most prevalent delusion relates, however, to the creditor position of the United States to-day in relation to the rest of the world. It is commonly believed that the end of the war has left the United States in a strong creditor position, in addition to her large gold reserves. How many people are aware that apart from her gold holdings, which do not, of course, represent an undischarged claim on the rest of the world, the United States was a debtor country on balance at the end of 1945? The details are as follows :—

TABLE II

International Investment Position of the United States, December 31, 1945.(1)

		$ billion.
Assets (United States investments abroad) :		
Long-term :		
Direct	7·0	
Foreign dollar bonds	1·9	
United States Government(2)	2·7	
Miscellaneous private	1·0	
Total long-term		12·6
Short-term :		
Private	0·3	
Official	0·1	
Total short-term		0·4
Total assets		13·0

TABLE II—*continued.*

		$ billion.
Liabilities (foreign investments in the United States) :		
Long-term : (3)		
Direct	2·3	
Preferred and common stocks	3·7	
Corporate and Government bonds	0·9	
Miscellaneous	0·6	
Total long-term		7·5
Short-term :		
Private	4·5	
U.S. Government (4)	3·1	
Total short-term		7·6
Total liabilities		15·1
Net creditor (+) *or debtor* (−) *position of the United States :*		
On long-term account		+5·1
On short-term account		−7·2
Net position		−2·1

Notes.—(1) Preliminary Estimates. The preceding table, prepared by the U.S. Department of Commerce, appears in Part 2 of the Eighth Report of the U.S. Congressional Committee on Postwar Economic Policy and Planning dated February 7, 1946.

(2) Basis of valuation : Direct investments at book value; all other at market values where available, otherwise par or estimated values.

(3) Includes estimated amounts due under Lend-Lease credits and Military civilian supply programmes; outstanding Export-Import Bank Loans and the R.F.C. Loan to the U.K.; and the $650 million due by the U.K. under the Lend-Lease Settlement of December 6, 1945.

(4) Includes holdings of United States currency and of short-term Government securities as well as certain foreign deposits within the U.S. Treasury.

TABLE III

U.S. Gold Holdings

($ million)

	U.S. gold reserves at end of period.	Net gold import.	Decrease or increase (−) in ear-marked gold on foreign account.
1938	14,512	1,974	−333
1939	17,644	3,574	−534
1940	21,995	4,744	−645
1941	22,737	982	−408
1942	22,726	316	−458
1943	21,938	69	−804
1944	20,619	−845	−460
1945 Jan.–Nov.	20,030	−125	−352
1945 Oct.	20,036		
1945 Jan.–Dec.	20,065		−357

Note.—Source : *Federal Reserve Bulletin*, Jan. 1946.

Table IV

Short-term foreign liabilities reported by Banks in U.S.	$ million.
End of December 1938	1,997
" " 1939	3,057
" " 1940	3,785
" " 1941	3,482
" " 1942	3,987
" " 1943	5,154
" " 1944	5,269
End of October 1945	6,397

Of the amounts outstanding on Oct. 31, 1945, $3,748 million represented official balances and $2,649 million other balances.

Notes.—(1) Other capital movements in the period December 1941 to October 1945 were comparatively small and partly equalising in effect, as follows:

(i)	Decrease in U.S. banking funds abroad	$84 million.
(ii)	Return of U.S. funds in foreign securities	150 "
(iii)	Inflow of foreign funds invested in securities	168 "
(iv)	Inflow of brokerage balances	33 "

(2) Source: *Federal Reserve Bulletin.*

Table V

Analysis by Countries of short-term Foreign Liabilities reported by Banks in U.S.A. at Oct. 31, 1945

	$ million.	
I. *Europe*		
U.K.	740	
France	360	
Netherlands	228	
Switzerland	284	
Belgium	196	
Norway	183	
Sweden	213	
Other European	341	
		2,545
II. *Canada*		1,552
III. *Latin America*		
Brazil		
Cuba		
Mexico		
Argentine		
Colombia		
Panama		
Chile		
Venezuela		
Other Latin America		
		1,098
IV. *Asia*		
China	592	
Netherlands East Indies	104	
Other	312	
		1,008
V. *All other Countries*		194
		6,397

Note.—Source: *Federal Reserve Bulletin.*

After she entered the war, the net short-term position of the United States deteriorated substantially; so much so that by October 1945 she had dissipated by far the greater part of her large gains from ourselves and others in 1939, 1940 and 1941 before she entered the war, and was only very slightly stronger, after deducting her increased foreign liability from her increased gold reserve, than at the end of 1938, an increase of $5,524 million in gold holdings and of about $200 million in currency holdings abroad being offset by an increase of $5,175 million in foreign liabilities, as is shown in Tables III and IV.

Gold held under ear-mark for foreign account at December 31, 1945, represented $3,994 million.

The fact that the U.S. Administration blocked the resources of a number of foreign countries during the war, and that these assets remained blocked throughout the war-period, has made available fairly accurate statistics of the very large dollar holdings of the countries in question, which stood at the end of the war as follows :—

TABLE VI

Distribution of Blocked Property by Nationality of Owner (as of June 14, 1941)

Netherlands, including Netherlands (East) Indies	$1,800,000,000
Switzerland	1,500,000,000
France and Monaco	1,400,000,000
Belgium	400,000,000
Sweden	600,000,000
China	300,000,000
Norway	100,000,000
Japan	150,000,000
Germany	150,000,000
Italy	100,000,000
All others	750,000,000
Blocked nationals resident in the United States (other than business enterprises owned abroad)	500,000,000
Holdings of American citizens in blocked enterprises	750,000,000
Total	$8,500,000,000

Distribution of Blocked Property by Type of Property (as of June 14, 1941)

Short-term funds, including ear-marked gold	$4,000,000,000
Securities	2,000,000,000
Direct investments and miscellaneous	2,000,000,000
Holdings of blocked nationals resident in United States	500,000,000
Total	$8,500,000,000

Note.—The above tables appear on page 223, Report on Hearings before the Subcommittee of the Committee on Appropriations, House of Representatives, Seventy-ninth Congress, First Session on the Treasury Department Appropriation Bill for 1946.

At the same date (June 14, 1941) a general census was taken of all foreign-owned United States assets, showing a grand total of $12,739 million, exclusive of ear-marked gold, which has been brought up to date in Table II above. A detailed analysis of this census was published by the U.S. Treasury in 1945 under the title "Census of foreign-owned assets in the United States."

If the figures are restricted to the more or less liquid reserves of foreign countries held in the United States at the end of the war in the shape of ear-marked gold, bank balances and market securities, the aggregate is of the order of $15 billion, and has *increased* since the end of 1938 by some $9 billion. This huge movement, most of which represents a gain by foreign countries at the expense of the United States, has been largely overlooked by commentators in this country.

TABLE VII

	$ billion.
(a) Short-term assets held in the United States (Table IV) . .	6·4
(b) Ear-marked gold (Table III)	4·0
(c) Market Securities (Table II) (compared with $3,825 billion at the end of 1938)	4 6
	15·0

So far we have been concerned with firm statistics relating to the present position and the most recent pre-war experience. How materially has this been changed by what there is good reason to expect in the immediately ensuing period?

The sterling prices of goods entering into foreign trade are running at the present time at not much less than double pre-war. This ratio is rather too high for dollar prices. But for convenience of calculation an assumption of double pre-war prices will be used in what follows. The results can be easily adjusted to alternative assumptions. (A lower figure for prices would probably ease the eventual problem on balance.)

On this price assumption the average level of imports immediately before the war would be worth rather less than $5 billion. American experts are expecting a considerably higher figure than this after the war, even as much as 50% higher, on account of the greatly increased activity of the American industrial machine and its increased consumption of imported raw materials as soon as they are available in the required volume. The American view may perhaps be regarded as in part a reflection of the vivid consciousness of the need for maintaining domestic prosperity currently in evidence in the United States; for, as appears from Table I above, an index of imports shows annual changes in the

period 1932–38 as a magnified reflection of changes in the level of U.S. industrial production, or rather, as it should be read in this context, in the level of internal prosperity. Whatever vicissitudes one may foresee for American prosperity, it is certain that the public demand for vigorous Government action to meet any serious or prolonged unemployment will be intense. When the outside world has recovered its capacity to supply, imports of $6 to $8 billion on the above price assumption would seem quite reasonable. U.S. imports averaged $4 billion in the decade 1920–29 at the prices and level of national income *then* prevailing. They are running currently in the neighbourhood of $5 billion at present prices.

Exports, at the average level immediately before the war, on the same price assumption would be a little more than $6 billion. Here also the American experts expect a higher figure, various estimates up to as high as $10 billion being current. In the second half of 1945 American exports, which were still dominated by Lend-Lease, were running at an annual rate of $8 billion. The U.S. Secretary of Commerce, Mr. Henry Wallace, in his evidence to the Senate Banking Committee during the hearings on the British Loan on March 12, 1946, estimated the total foreign requirements from the U.S. in 1946 at $10,728 billion. A figure of $10 billion might well be reached in the early years, when overseas lending by the United States in the shape of tied loans is on a large scale; for the loans in many cases create, and are the necessary condition of, the exports. It is not clear, however, that this figure will be easily reached without the assistance of tied loans or subsidies, in view of the fact that the prices of American agricultural produce and raw material now stand over a wide field above world prices. Moreover, industrial wages in the United States are already two and a half times the British level, and are rising more rapidly. There is certainly a potential danger from a policy of export subsidies. But extensions of this policy are frowned upon by the State Department, and will be strictly regulated if the proposals of the projected International Trade Organisation come into operation.

Perhaps the reader may be left for the moment to form his own judgment, in the light of the above, of the most probable order of magnitude of the American favourable balance of visible trade in the post-war environment. An average of $2 to $3 billion a year over a period of years beginning in 1947 looks to me fully high on the basis of present expectation.

What about the invisible items other than interest (which it

will be convenient to deal with separately)? Apart from interest charges and dividend income, the United States had before the war an adverse balance in excess of $500 million, the principal items of which are given in the following table :—

TABLE VIII

U.S. Balance of Payments on Invisibles (Other than Dividends and Interest)

(Average 1936–39)

	Receipts.	Payments.	Net.
Shipping and freight	241	321	− 80
Travel	129	309	−180
Personal remittances	31	159	−128
Institutional contributions (net)	—	—	− 35
Government aid and settlements	2	22	− 20
Other Government items	34	83	− 49
Silver	10	131	−121
Miscellaneous adjustments and services (net)	—	—	+85
Net total	—	—	−528

American statisticians are expecting a substantial increase in this adverse balance, and rely on this, more than on any other factor, for the maintenance of equilibrium. The pre-war adverse balance in respect of shipping may be reversed, but not perhaps by as much as some people think. The great increase of American-owned tonnage is mainly concentrated in a few specialised types, and a very great part of it will, according to present plans, be scrapped, laid-up or otherwise disposed of. American costs, both of building and of running ships, are very high compared with our own. Overseas Government expenditure, on the other hand, will certainly be much greater.

American forecasters are, however, mainly influenced in reaching their conclusion by the expectation of a very great increase in tourist expenditure. Before the war their gross payments out on this ground were of the order of $300 million. It is believed that after the war this expenditure will reach at least $1 billion, and even such figures as $2 billion are spoken of. Those who know the present state of hotel accommodation here and in Europe are likely to consider these figures greatly over-estimated in the short run. But in the long run, if we take adequate measures to develop the tourist industry up to its full potentialities, this source of overseas income, both here and in Europe, may be very great. Moreover, even in the short run American

tourist expenditure nearer home in Canada, Mexico and the West Indies may be substantial.

An important item to complete the balance-sheet of current receipts and expenditure still remains for examination—namely, the growth of income from the new foreign loans now in prospect. We start off with an estimate of net receipts of $300 million at the end of 1945 in respect of interest and dividend receipts.* It is the prospective increase in this item which looks most alarming to the outsider, and it is therefore particularly important to clear our minds about its possible order of magnitude in relation to the other figures in the balance-sheet.

An estimate of American commitments, actual and prospective, up to date has been given in the January Bank Letter of the National City Bank of New York as follows :—

TABLE IX

	$ million.
U.S. subscription to the International Monetary Fund . . .	2,750
Ditto to the International Bank	3,175
Authorised lending power of the Export–Import Bank	3,500
Proposed British credit—new money .	3,750
Ditto for Lend-Lease settlement, etc.	650
Credit for Lend-Lease settlement with France	575
Ditto with Russia . .	400
First contribution to U.N.R.R.A.	1,350
Second proposed contribution	1,350
	17,500

This table is, of course, a very imperfect guide to the final situation. But it may help to give us a clue to the orders of magnitude involved. In the first place, this table covers only those commitments already approved by Congress or recommended to Congress by the Administration. In this respect, therefore, the total of the ultimate commitment is presumably under-estimated. In particular it may be noted that in a message to Congress on March 1, 1946, President Truman endorsed the recommendation of the National Advisory Council on International Monetary and Financial Problems that the lending authority of the Export–Import Bank be increased by $1·25 billion. In the second place, on the other hand, it looks some way ahead. It assumes, for example, that the whole of the American subscription to the Bretton Woods Fund has been drawn upon. It also

* That this is a positive, and not a negative, figure, in spite of U.S. being a net debtor on capital account, is explained by the large amount of her external liabilities held at short-term at a very low rate of interest. It follows that this figure will be increased correspondingly less when foreign countries begin to draw on their dollar balances.

assumes that the whole of the present resources of the Export-Import Bank have been utilised. Nor does the amount of the American subscription to the International Reconstruction Bank accurately measure what really matters in this context—namely, the volume of loans which the new Bank will be able to raise in the American market, a figure which may, in the long run, either exceed or fall short of the amount of the American subscription as a member. Moreover the contributions to U.N.R.R.A. can be neglected for our present purpose; for they are a free gift which will help to preserve equilibrium in 1946 but will have no effects on the balance of payments in later years.

The actual, as distinct from the potential, state of commitments as at the end of January, 1946, was stated by the President in his Budget statement at that time as follows:—The loans and commitments of the Export-Import Bank then stood at \$1·3 billion out of its total authorisation of \$3·5 billion. The President "anticipated that net expenditures of the Export-Import Bank and expenditures arising from the British credit and the Bretton Woods Agreement will amount to \$2,614 million including the non-cash item of \$950 million for the Fund in the fiscal year 1946 and \$2,754 million in the fiscal year 1947."

What is the annual burden of interest which the rest of the world will have undertaken on the basis of the present programme? Current interest receipts from the International Monetary Fund will depend not only on the amount drawn upon, but also on the dividend policy of the Fund. It is not yet possible to enter any figure under this head. The Export-Import Bank rates of interest have varied between $2\frac{3}{8}\%$ and 3%. The Lend-Lease settlements with France and Russia are at $2\frac{3}{8}\%$. The British credit is at 2%, beginning on December 31, 1951. The terms on which the International Bank will be able to borrow are quite uncertain. To fix a base for our impression of the order of magnitude, let us leave out U.N.R.R.A. and the subscription to the I.M.F. and assume that the rest costs 3% on the average (which one may hope is an outside estimate). The result is an annual interest burden of \$360 million. It will be seen, contrary perhaps to expectation, that the total is small compared with the other main items in our calculation. Treble it, and you have only just exceeded \$1 billion. And if you treble it the corresponding increase of new loans would be sufficient to clear the overall position for another decade or two. Moreover, it should be repeated that the figure of \$360 million looks some way ahead. For we have included interest on the British credit

which does not begin to fall due for nearly six years, and the calculation assumes loans of \$3,175 million on the American market through the International Bank, which will take some doing.

In addition to the interest payment, there is the annual amortisation of capital. The British credit is spread over fifty years, the Export–Import Bank and other Lend-Lease credits over twenty to thirty years. But it is easiest to assume, what is not unreasonable, that new American loans hereafter will be at least equal to the annual amortisation payments. If not, of course the aggregate interest payments will, after a time, fall off appreciably. In their statement of Foreign Loan Policy of the United States Government published on February 21, 1946, the National Advisory Council on International Monetary and Financial Problems assert that the annual interest *and* amortisation on the entire present and contemplated Export–Import Bank programme (that is, presumably, including the proposed additional \$1·25 billion), the British Loan and the International Bank Loans floated in U.S. markets would be less than \$1 billion.

There are far too many uncertainties in the position to allow of any clear-cut summing up. I am content to leave the reader to reach his own tentative conclusion in the light of the above. Very broadly, however, it looks as if the invisible balance of the United States on current account, including interest, is more likely to be adverse than favourable, and, if tourist traffic fulfils expectations, substantially adverse. For visible trade to assume an excess of exports over imports by as much as \$2 to \$3 billion as an average over a period of years allows, from the point of view of the outside world, a considerable, one should hope an excessive, measure of pessimism. If American Commercial Policy is successful in directing itself with any degree of conviction to the preservation of equilibrium in the overall balance of payments, the final outcome might be appreciably better than the above.

It may be worth while to record the experience of the United States after the last war. The U.S. balance of payments from 1924 to 1930 inclusive showed a merchandise excess of almost \$800 million a year on the average. But shipping and travelling expenditure cut the above favourable balance almost in half whilst cash remittances from the United States (no longer relatively so important to-day) almost eliminated the remainder; with the result that the next annual balance on capital account was not more than \$100 million.

It is obvious that no country can go on for ever covering by new lending a chronic surplus on current account without eventually forcing a default from the other parties. The above estimates show, nevertheless, that the United States can continue foreign lending on a substantial scale for many years to come before the interest due becomes a major and burdensome element in the balance of payments taken as a whole. Anyway, the above estimates are certainly not, for better or for worse, going to continue valid for an indefinite time. Much will happen which we cannot foresee. It is sufficient to cast one's prognosis a moderate distance forward. If we look forward a moderate distance, what resources will the outside world possess to discharge what, in the light of the above, it may find itself owing to the United States on annual current account?

These resources fall under three headings :—

1. *Existing Resources in the U.S.*

We have seen above that foreign-owned liquid resources in the United States in the shape of ear-marked gold, bank balances and market securities amount to at least $15 billion. It appears from Table V that the more liquid resources are well spread between a number of countries. Nevertheless, the countries most needing dollars are not necessarily those holding the largest balances; and some of the countries with the largest amounts regard their dollar balances as part of their ultimate reserves (*e.g.*, Canada) and are not likely to draw upon them fully except in extreme circumstances. Thus only a portion of the above aggregate can be regarded as easily available to cover a balance of payments favourable to the United States.

2. *The New Projected Loans Themselves.*

If we omit from Table IX the contributions to U.N.R.R.A. and the credits for Lend-Lease settlements which have been already, or shortly will be, spent, we are left with a total of $13 billion; this will rise to $14·25 million if the Export–Import Bank's lending powers are increased, and it is presumably not the end, if we are looking five or ten years ahead.

3. *Gold Reserves and Current Production.*

The 1937–40 average output outside the U.S.S.R. was in excess of $1 billion a year. In 1942–45 this fell to about $700 million, on account of shortage of man-power and material. A large increase is now expected in Canada, and an increase, rather

than a decrease (perhaps a substantial increase a little later on), in South Africa. Moreover, Russia presumably intends to make some use some day of her presumed large reserves and current output. The most recent report of the Bank for International Settlements estimates the gold reserves of Central Banks and Governments other than the United States (excluding gold in the United States ear-marked on foreign account of which we have already taken account above) at about $10·4 billion. $2·7 billion of this was accumulated in 1942–45; whilst the total increase in gold stocks outside U.S. after America came into the war was considerably greater than this. It would seem, therefore, that the rest of the world could, if necessary, spare upwards of $1 billion a year, for a time at any rate, without suffering great embarrassment.

Putting one thing together with another, and after pondering all these figures, may not the reader feel himself justified in concluding that the chances of the dollar becoming dangerously scarce in the course of the next five to ten years are not very high? I found some American authorities thinking it at least as likely that America will lose gold in the early future as that she will gain a significant quantity. Indeed, the contrary view is so widely held, on the basis (I believe) of mere impression, that it would be a surprising thing if it turns out right.

In the long run more fundamental forces may be at work, if all goes well, tending towards equilibrium, the significance of which may ultimately transcend ephemeral statistics. I find myself moved, not for the first time, to remind contemporary economists that the classical teaching embodied some permanent truths of great significance, which we are liable to-day to overlook because we associate them with other doctrines which we cannot now accept without much qualification. There are in these matters deep undercurrents at work, natural forces, one can call them, or even the invisible hand, which are operating towards equilibrium. If it were not so, we could not have got on even so well as we have for many decades past. The United States is becoming a high-living, high-cost country beyond any previous experience. Unless their internal, as well as their external, economic life is to become paralysed by the Midas touch, they will discover ways of life which, compared with the ways of the less fortunate regions of the world, must tend towards, and not away from, external equilibrium.

Admittedly, if the classical medicine is to work, it is essential that import tariffs and export subsidies should not progressively

offset its influence. It is for this reason that one is entitled to draw some provisional comfort from the present mood of the American Administration and, as I judge it, of the American people also, as embodied in the *Proposals for Consideration by an International Conference on Trade and Employment*. We have here sincere and thoroughgoing proposals, advanced on behalf of the United States, expressly directed towards creating a system which allows the classical medicine to do its work. It shows how much modernist stuff, gone wrong and turned sour and silly, is circulating in our system, also incongruously mixed, it seems, with age-old poisons, that we should have given so doubtful a welcome to this magnificent, objective approach which a few years ago we should have regarded as offering incredible promise of a better scheme of things.

I must not be misunderstood. I do not suppose that the classical medicine will work by itself or that we can depend on it. We need quicker and less painful aids of which exchange variation and overall import control are the most important. But in the long run these expedients will work better and we shall need them less, if the classical medicine is also at work. And if we reject the medicine from our systems altogether, we may just drift on from expedient to expedient and never get really fit again. The great virtue of the Bretton Woods and Washington proposals, taken in conjunction, is that they marry the use of the necessary expedients to the wholesome long-run doctrine. It is for this reason that, speaking in the House of Lords, I claimed that "Here is an attempt to use what we have learnt from modern experience and modern analysis, not to defeat, but to implement the wisdom of Adam Smith."

No one can be certain of anything in this age of flux and change. Decaying standards of life at a time when our command over the production of material satisfactions is the greatest ever, and a diminishing scope for individual decision and choice at a time when more than before we should be able to afford these satisfactions, are sufficient to indicate an underlying contradiction in every department of our economy. No plans will work for certain in such an epoch. But if they palpably fail, then, of course, we and everyone else will try something different.

Meanwhile for us the best policy is to act on the optimistic hypothesis until it has been proved wrong. We shall do well not to fear the future too much. Preserving all due caution in our own activities, the job for us is to get through the next five years in conditions which are favourable and not unfavourable to the

restoration of our full productive efficiency and strength of purpose, of our prestige with others and of our confidence in ourselves. We shall run more risk of jeopardising the future if we are influenced by indefinite fears based on trying to look ahead further than any one can see.

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[Invaluable help has been given by Mr. David McCurrach in the preparation of the above tables.]

THE BRITISH DEMAND FOR IMPORTS IN THE INTER-WAR PERIOD

This note outlines a statistical investigation into (1) the factors determining Britain's demand for imports during the cyclical changes of the inter-war period; (2) the likely demand for imports if there had been full employment at home; (3) the behaviour of different categories of imported commodities.

I. The Demand for Imports as a Whole

The total British demand for imports is largely determined by changes in the National Income, increasing in times of business prosperity and falling with business decline. This connection is direct and obvious. Consumption is closely correlated with the level of income; [1] and nearly half of British imports consists of food-stuffs for immediate consumption uses. Another substantial section of British import trade consists of raw materials and semi-manufactures (many of the commodities classified as manufactured goods being in fact semi-manufactures which are the raw materials of British " finishing " industries); and the demand for this class of imports is directly determined by the fluctuations of basic economic conditions at home, which are in turn reflected in the changes of the national income.

The observed relationship between changes in imports and changes in national income can be expressed in two ways. If we set out the changes in imports that typically result from a unit change in income, the relationship being measured is the " marginal propensity to import." [2] If we relate proportional changes in imports and in income, we are measuring the income-

[1] Alvin Hansen, *Fiscal Policy and Business Cycles* (New York), Chapter XI, Appendix.

[2] With ordinary arithmetic scales, plot the crude figures of total imports (as Y) against the national income (as X). We get a series of points on a scatter diagram, one for each year; and, because the relationship between Y and X is very roughly linear, we can fit a line $Y = a + bX$ to these points. " b " is the marginal propensity to import, dY/dX, and is a constant for all values of X. The average propensity to import at income X is the proportion of that income spent on imports, or $a/X + b$. If " a " is positive, the average propensity exceeds the marginal propensity, but is a declining function of income. If " a " is negative, the average propensity is less than the marginal propensity and is an increasing function of income. If " a " is zero, the two propensities coincide. For the relationship of imports to national income investigated here, " b " is positive; but negative values of " b " must exist in the case of inferior goods the demand for which rises with falling income.

elasticity of demand for imports.[1] The technique of correlation analysis is employed for the whole investigation.

Let Y be the money value of the total annual retained imports of commodities, as reported by the Board of Trade; and let X be the net national income at factor cost, as given by Richard Stone.[2] Then the regression equation is:

$$Y = 121{\cdot}1 + 0{\cdot}2X,$$

the unit being million pounds. This shows that over the period as a whole, from 1924 to 1938, each change of £1 in the national income of the U.K. tended to be accompanied by a change of about four shillings in the value of retained imports.[3] On the average, 23·1% of the national income has been spent on imports; this is greater than the marginal propensity to import, which is therefore a decreasing function of income. This is to be expected, as nearly half of British retained imports consists of food-stuffs, the proportionate expenditure on which should decrease as income increases.

The trends of the two time series were opposite to each other, national income showing a slightly upward trend, while the value of retained imports having a strongly downward movement owing to the violent fall in prices. The crude data therefore underestimate the marginal propensity to import, and a better result is obtained by fitting a line to the data with trend eliminated, and by considering changes in income and imports instead of total amounts. The regression of yearly changes of imports on yearly changes of income gives the equation: $Y = -37{\cdot}7 + 0{\cdot}283X$. When trend is eliminated by the method of least squares, the equation becomes $y = 0{\cdot}295x$. These two results are close to each other; therefore we can conclude that the crude marginal propensity to import is about 0·3.

So far we have neglected changes in the terms of trade. But we can define the marginal propensity to import in real terms, the point of departure being the regression of *quantity* of imports

[1] If the scatter diagram is plotted with logarithmic scales, the regression coefficient of imports on income denotes the income-elasticity of demand for imports. But a simpler way is to estimate the mean elasticity, $e = \frac{dY}{dX} \cdot \frac{X}{Y}$, from the equation $Y = a + bX$. (*See* H. Schultz, *The Theory and Measurement of Demand*, pp. 190–192.)

[2] Richard Stone, *The Analysis of Market Demand* (reprinted from *Journal of Royal Statistical Society*, 1945).

[3] No attempt has been made to correct the value of retained imports for imports used in making exports. A rough estimate shows that the correction would be small.

on *real* national income. The former series is derived by multiplying an index of import quantity with the base at 1930 by the value of imports in 1930; the latter series is the figures of real national income given by Stone.[1] When trend has been eliminated the regression equation is $y = 0{\cdot}136x$, which gives a marginal propensity to import of 0·136. This is much smaller than the previous result, 0·3, the difference being clearly due to the fact that import prices fluctuated much more violently than domestic prices during the period covered.

We cannot say that one of these results represents the "true" marginal propensity to import. 0·14 is probably the minimum value, while 0·14–0·3 is the range within which the marginal propensity to import fluctuated with changes in the terms of trade.

For the data considered so far, the correlation coefficients are not very high; but tests suggest that they are probably statistically significant.[2] In other words, the assumption of a relation between fluctuations of imports and of domestic national income can probably be established. There are two reasons for the rather low values of the correlation coefficients. Firstly, there have been special causes for certain unusual movements of imports. For instance, in the year 1926 the long coal strike and the General Strike compelled British industries to use foreign raw materials for making both domestic consumption goods and goods for export. The most conspicuous example was the heavy increase in the importation of coal and of iron and steel semi-manufactures, which normally mainly came from domestic resources. Consequently the quantity of imports increased at a time when the domestic income was shrinking.[3] This tendency continued into 1927; during that year there were exceptional imports of raw materials for use by the export industries in working off the contracts delayed by the previous stoppage. In 1928 this phase had passed, and it is not surprising to find that imports decreased and fell into line with movement of income. Again, the spectacular increase in imports in 1931, while domestic employment was declining, was due to heavy stock-piling of manufactured goods in anticipation of the imposition of a protective tariff.

Secondly, the yearly national income figures fail to reveal

[1] Stone, *op. cit.*

[2] By using Fisher's z-transformation, the correlation coefficients are statistically significant. But this test is not, of course, valid for the correlation of time series, owing to the presence of serial correlation. There is no satisfactory test which can be applied to a small number of observations of this type.

[3] Taking 1924 as base, the increase in imports of all commodities was 8·6%, that of raw materials 19·0%, and that of manufactured goods 19·3%.

short-term fluctuations in home economic conditions, which often have an important influence on imports. Therefore, in order to study the behaviour of imports during the trade cycle, we shall relate them to the index of home employment, which is a very stable function of the national income, and is better able to reflect its short-term fluctuations. The index used is based upon the estimates of employed persons subject to insurance, excluding persons sick or on strike, published in the *Ministry of Labour Gazette*. It follows that henceforth we shall be calculating employment-elasticity instead of income-elasticity; the employment-elasticity being defined as the ratio of the proportionate change in the quantity of imports to the proportionate change in home employment, when the import price remains constant.

The regression equation for quantity of imports and home employment, trend being eliminated, is: $y = 0{\cdot}685x$, with correlation coefficient equal to $+0{\cdot}54$; which means that one point change in the index of home employment tended on the average to be accompanied by about 0·7 point change in the quantity of imports. This regression coefficient is a crude one, since other factors influencing the behaviour of imports have been ignored. But it enables us to make an approximate investigation into another interesting problem—namely, the temporal relationship between imports and home employment. On *a priori* grounds, one would expect fluctuations in employment to lead those in quantity of imports. Is this expectation confirmed, and what is the length of the lead? We find the correlation between the two variables when one is shifted forwards or backwards a certain number of months; the time-difference is then given by the largest of the correlation coefficients found. In this case we make a rough approximation by using quarterly figures of employment. Thus, in order to calculate our correlation coefficient when employment leads by one quarter, we pair off the average employment from the fourth quarter of 1923 to the third quarter of 1924 with the imports for 1924; and so on.[1] The results obtained are as follows:

	Correlation coefficient.
Employment leading by two quarters	0·60
Employment leading by one quarter	0·64
No lead	0·54
Employment lagging by one quarter	0·50

[1] Both the monthly figures and the quarterly figures of quantity of imports published in the *Board of Trade Journal* are not complete for all the years under investigation; therefore we have to use the yearly figures. The quarterly figures of home employment can be found in the *Ministry of Labour Gazette*.

It appears that fluctuations of employment lead those of quantity of imports by between one and two quarters.

We must now discuss further the employment-elasticity (or income-elasticity) of the demand for imports during the trade cycle; inquiring in particular whether the import price level, which has so far been neglected, is an equally important determinant of quantity of imports. We want to know the size of its effect, and whether the employment-elasticity will be different if import price is taken into consideration.

TABLE I

Indices of Quantity of Imports, Import Prices, and Home Employment (with Trend Eliminated)

Year.	(1) Total retained quantity.	(2) Home employment.	(3) Import price. (a) Average value in wage-unit.	(b) Average value after correction.
1924	95·5	103·3	108	105·6
1925	100·0	102·9	103	103·9
1926	104·3	95·9	100	98·2
1927	105·4	104·6	99	99·2
1928	99·2	103·3	105	105·8
1929	103·4	104·1	107	105·1
1930	102·4	98·6	100	93·9
1931	104·5	93·7	85	83·4
1932	90·5	91·9	83	91·2
1933	91·7	94·0	84	94·3
1934	95·8	95·4	90	96·8
1935	96·0	98·5	96	100·4
1936	101·9	102·5	102	102·9
1937	107·8	106·6	120	110·0
1938	102·0	104·9	117	108·0

If we plot quantity of imports and employment logarithmically, as shown in Fig. 1, we obtain as the equation of the fitted line:

$$\log y = 0{\cdot}81 + 0{\cdot}595 \log x,$$

with correlation coefficient equal to $+0{\cdot}56$. This means that the crude elasticity of demand for imports is 0·595—fairly inelastic. If the correlation coefficient had been high—that is, if the deviations of the observed values from the fitted line had been small—we should have deduced that changes in import price and other disturbing causes had had little effect, and could be disregarded. But the actual value of the correlation coefficient is low enough to suggest that, even after allowing for the random changes in 1926 and other years, home employment may not have been the only factor affecting the quantity of imports. We observe that

in the years after the return to gold, when import prices were low relative to domestic prices, the observed values lie above the fitted line in Fig. 1. After 1932, when the pound sterling had depreciated, the observed values lie below the fitted line. It is therefore reasonable to suppose that the variations in import prices are the disturbing factor.

The relationship between the quantity of imports and the import price is not a simple one. Firstly, the cost of buying imported goods (from the point of view of the domestic consumer)

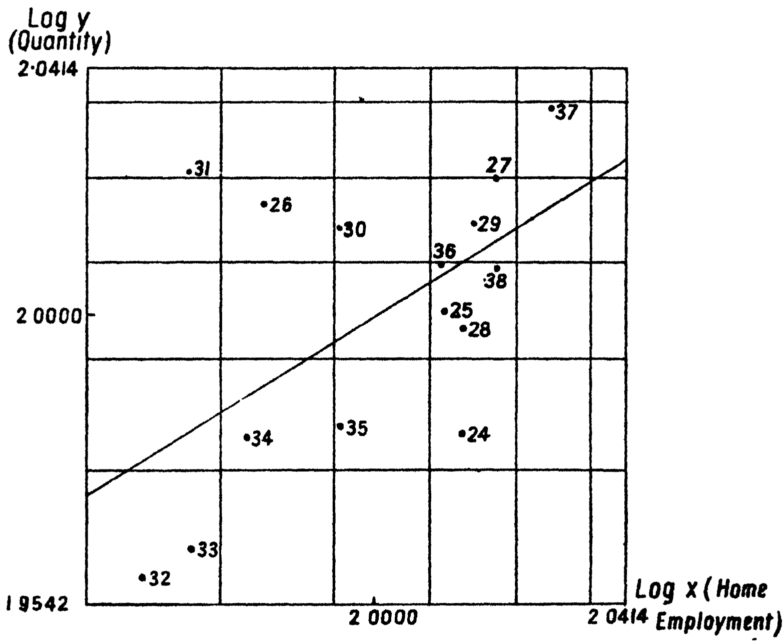

FIG. 1.
Showing the correlation between the quantity of imports and home employment.

is not the price quoted by the foreign sellers, but the quoted price c.i.f. plus import duties. The Board of Trade index of import prices does not make allowance for changes in tariffs. When we come to consider the behaviour of separate categories of imported goods, we shall have to make elaborate corrections for tariffs; but for our present purpose it will be sufficient to add to the annual values of imports the Customs revenue for the appropriate year. We then reduce these figures to an index of import value including tariff, on the base 1930; dividing by the index of quan-

tity on base 1930, we obtain an index of import price with import duties added.

Secondly, it would seem *a priori* that at a given level of home employment the quantity of imports would vary inversely, not with the absolute level of import prices, but with the relative level of import and domestic prices. For domestic products compete with imports for the purchasing power in the hands of consumers. Hence, taking the Ministry of Labour's cost-of-living index as the best representative of domestic prices,[1] we derive the "relative import price level after allowance for duties," as shown in column (3) (*b*) of Table I, by dividing the index of absolute import prices by the cost-of-living index.

Actually, over the period 1924–38 there has been a linear correlation of magnitude of 0·955 between British import price level (corrected for tariff) and the British cost-of-living index; the amplitude of the fluctuations of the import price being, however, much greater. Within narrow limits a particular level of import price has been associated with a particular level of domestic price, both being no doubt influenced by the common factor, British home employment. It follows that if a particular absolute import price level is associated with a given level of employment, so also is a particular relative import price level.

But of course in the inter-war period there were many instances where changes in the conditions of supply of British imports—that is, in the absolute import price level—were related to the level of British home employment. Thus the correlation between quantity of imports and corrected relative import price is positive, +0·24. This would seem to mean that the price-elasticity of British demand for imports is positive; which sounds absurd, for in theory the elasticity of the demand for a commodity with respect to its own price must be negative even in the case where it is an "inferior" commodity and the income effect outweighs the substitution effect. This phenomenon of positive correlation can be explained by the fact that, as the U.K. was the chief importer of certain important world exports, the world export prices (or the British import prices) were bound to move in the same

[1] The reason for not using the wholesale price index is that, besides its defect of inadequate weighting of manufactured goods, it includes the prices of the same goods in intermediate productive process—*e.g.*, raw cotton and cotton yarn. The cost-of-living index, which includes items entering into final consumption, is therefore considered to be a better theoretical measurement of the movements of domestic prices. Besides, the wholesale price index of the Board of Trade consists of prices of many imported goods. *Cf.* J. M. Keynes, *A Treatise on Money*, Vol. I, Chapter IV.

direction as British domestic employment. When employment was high, the quantity of imports was high, and therefore import prices tended to rise; and *vice versa*. This effect would be strengthened by the tendency of British employment to move with world employment. Therefore our regression equation of quantity on price represents, not the demand function with respect to price,

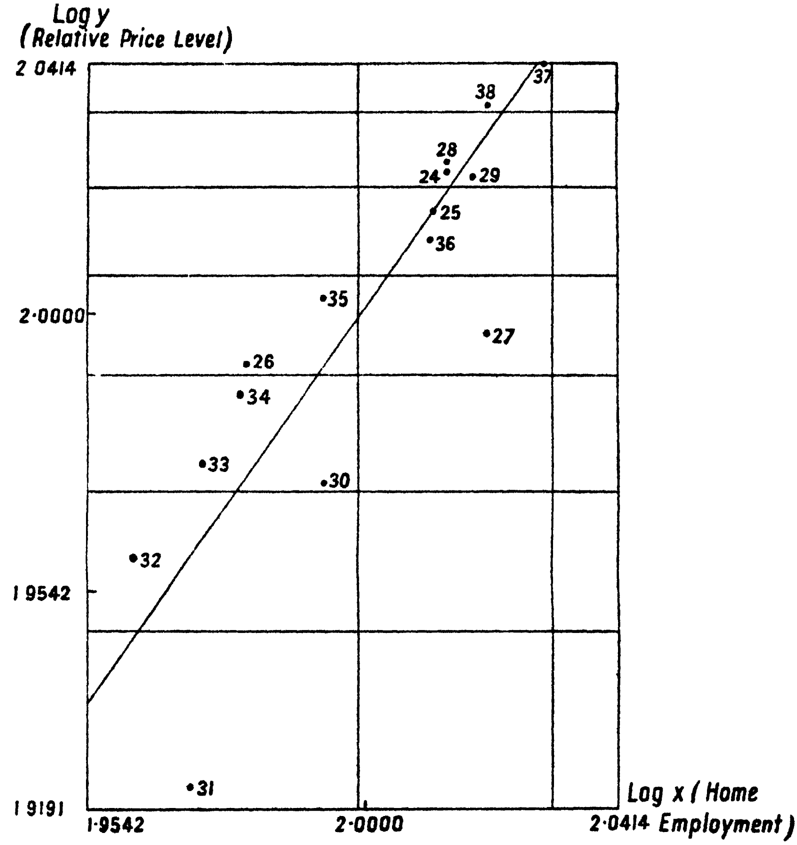

Fig. 2.
Showing the correlation between home employment and corrected import price level.

but the foreigners' supply function for British imports. In order to get a clear idea of the influence of price on quantity, we must separate statistically the effect of employment changes on the import prices.

The close association of import price with domestic employment is illustrated in Fig. 2.

The regression equation is :

$$\log y = -0\cdot6081 + 1\cdot3036 \log x$$

with $r = +0{\cdot}86$. It is interesting to note that this diagram shows a variation reverse to that in Fig. 1. By careful comparison, we can see that in the years in which the import price was high in relation to domestic employment, the quantity of imports was low in relation to employment; and the converse is also true.

The fact that the slope of the regression line is 1·3 means that prices fluctuated more violently than domestic employment. During the years of depression the suppliers of British imports

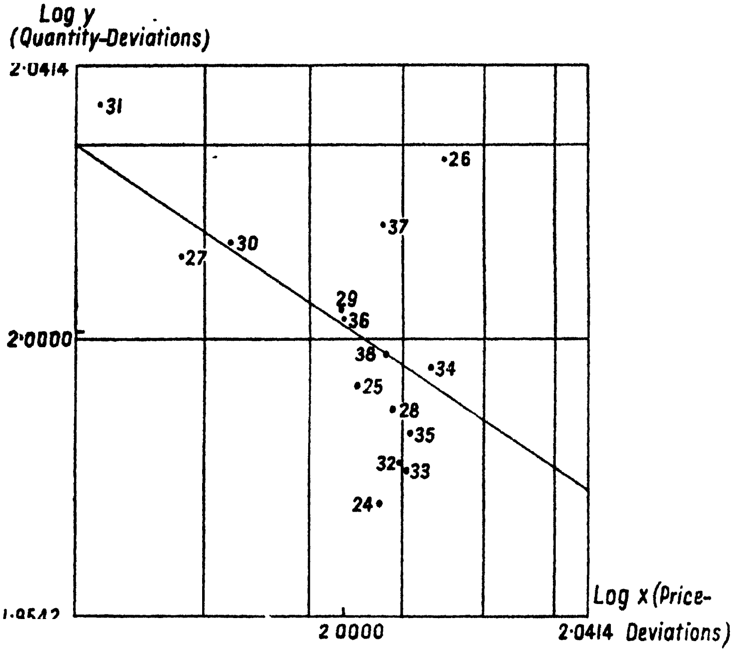

Fig. 3.

Showing the correlation between the quantity-deviations and price-deviations.

suffered not only from a shrinkage of the quantity exported to the U.K., but also from a fall in the value per unit imported.

From the results illustrated in Figs. 1 and 2, we can now calculate the price-elasticity after allowing for the influence of changes in home employment on both the quantity and the price. We do this by correlating the deviations from the quantity-employment function (shown in Fig. 1) with the deviations from the price-employment function of Fig. 2. The result is shown in Fig. 3, and the correlation is negative.

The regression equation is:

$$\log y = +3{\cdot}1745 - 0{\cdot}5873 \log x,$$

with $r = -0{\cdot}56$. The correlation coefficient represents, in

statistical language, the "partial correlation" between quantity and price. The negative correlation apparently reveals that, besides being directly sensitive to changes in domestic employment, the quantity of British imports also varies inversely with changes in price. The price-elasticity, $-0{\cdot}59$, indicates a "moderate inelasticity," which may be explained by the inelastic demand for the food-stuffs which form nearly half of British imports.

Proceeding by the same method, the partial correlation between quantity of imports and home employment, keeping price constant, is $+0{\cdot}70$, which is larger, and therefore shows a better fit, than the crude simple correlation coefficient, $+0{\cdot}56$, for the data of Fig. 1.

We can now combine our results to form a demand function for British imports. Let x_1 be the quantity imported; x_2 the home employment, when price is kept constant; and x_3 the corrected relative price, when home employment is kept constant. Then the regression coefficients of $\log x_1$ on $\log x_2$ and $\log x_3$ will indicate respectively the employment- and the price-elasticity of British demand for imports. The regression equation is:

$$\log x_1 = +0{\cdot}4207 + 1{\cdot}4297 \log x_2 - 0{\cdot}6405 \log x_3.$$

The multiple correlation between quantity of imports (as dependent variable) and home employment and corrected relative price (as independent variables) is of the magnitude of $0{\cdot}75$, showing that in the period considered the variables of employment and price explain 56% of the variance in quantity of imports. This is quite satisfactory considering the random factors which also affect imports.

Two conclusions may be drawn from the last equation. Firstly, the employment-elasticity, at $+1{\cdot}43$, though fairly high, is not as high as in other industrial countries. Secondly, the price-elasticity is "moderately inelastic"; and therefore any deliberate attempt on the part of suppliers to decrease their prices will not increase the quantity they export to the U.K. proportionately. On the contrary, as the experience of the depression proves, such an attempt will make their balance of trade with the U.K. still worse.[1]

[1] This applies only to those suppliers whose exports consist mainly of "low-price-elasticity" agricultural products and whose exports to the U.K. are a very high proportion of their total exports. The situation is, of course, different in the case of those suppliers' whose exports are mainly manufactured goods of high price-elasticity (*see* Section III below). But since the former case predominates in the British import trade, our argument is *generally* true.

II. British Demand for Imports under Full Employment

We can now ask: "What would have been the value of total retained imports if the U.K. had attained full employment in 1938?" Contrasted to Sir William Beveridge's assumption that under full employment 97% of wage-earners are employed, we take a conservative estimate of 95%.[1] In 1938 the annual average of the total numbers of wage-earners insured under the General Insurance Scheme were 13·6 millions. Assuming similar variations in employment among non-insured workers, employment at full-employment level would have been 12·9 millions, which is equal to 131·9% of 1930, or 118·7% if trend is eliminated.[2] If the same relative import price level had prevailed under full employment, the quantity of imports with employment at 118·7 would have been 121·4%, or 127·4 with trend added. The actual value of retained imports in 1938, when the quantity was at 107 with respect to 1930 was equal to £858·8 millions; the value at full employment would have been £1,022 millions—*i.e.*, 858·8 × 127·4/107.

However, £1,022 millions is the minimum figure for the value of total retained imports under the assumption of full employment in 1938. In fact, the combined effect of unfavourable change of relative import price level and the low home price-elasticity would have increased the value of imports to a much higher figure. Domestic prices would have risen as a result of full employment, and the consequential increase in the demand for imports would also have increased the import prices. On balance, the relative import price level would have become unfavourable to the U.K., because prices of agricultural produce and raw materials are subject to greater fluctuations than are prices of manufactured goods. This is justified by the experience that during the inter-war period one point change in British cost-of-living index has been on the average associated with 2·3 point change in the index of import prices.[3] Therefore, corresponding to different relative price levels assumed to have prevailed in

[1] Sir W. Beveridge, *Full Employment in a Free Society*, pp. 124–131. E. A. G. Robinson, in his review of this book, has given reasons for the improbability of unemployment being reduced to 3% (Economic Journal, April 1945, pp. 70–76).

[2] Theoretically it is better to use the figure of total working population. But, since all our calculations are based upon the index of estimated insured persons in employment, here we have to use the same index, which is probably an adequate approximation.

[3] The regression equation is: (Absolute import price including tariff) = 2·3 × (cost-of-living) − 119·8, with $r = +0{\cdot}955$.

1938, there would have been different values of the total retained imports. We summarise our results in the following table :[1]

TABLE II

Theoretical Values of Total Retained Imports at Full Employment under the Assumption of Different Price Levels

(1) Cost-of-living Index (% of 1938).	(2) Absolute import price (theoretical value corresponding to (1)).	(3) Value of total retained imports (£ mn.).
110	119·9	1,194
115	130·7	1,272
120	141·5	1,347
125	152·2	1,421
130	163·3	1,493
135	174·1	1,563

III. THE VARYING NATURE OF THE DEMAND FOR IMPORTS

Over the trade cycle there has been a close association of total quantity of imports with home employment and with corrected relative price; but, nevertheless, individual categories of imported commodities have manifested a variety of behaviour patterns, reflecting different types of domestic demand for imports. For instance, the behaviour of imported producers' goods differs considerably from that of constimers' goods; imports of finished products vary differently from those of raw materials and semi-manufactures; fluctuations in imports of consumers' luxuries are different from those of essentials, and so on.

Those various patterns of change will be further complicated by fluctuations of inventories or stocks. Inventories tend to fluctuate with the trade cycle and to amplify the cycle. The reason for this is the entrepreneurs' need to carry several months' stocks in the normal process of production; so that increasing

[1] The table is obtained as follows. Let C be the assumed cost-of-living index as % of 1938; then this is 0·947% of 1930. From the equation of the previous footnote, therefore, $I_t = 2{\cdot}3 \times 0{\cdot}947 - 119{\cdot}8$, where I_t is the (absolute) import price including tariff. We thus obtain $I_t/0{\cdot}947C = R'$, the ratio of import price to the cost of living—*i.e.*, the relative import price; and from this we remove the trend, obtaining a value R. Substituting this value R, with home employment at full-employment level, into the equation on page 197, we get quantity of import without trend. To this we add back trend, obtaining the quantity which would have been imported in 1938 under full employment, with our assumed value of C. In order to obtain the value we must multiply by import price without tariff; the tariff rate increased the price of total imports by about 12·0% in 1938 and our required value is therefore :

$$\frac{(\text{Quantity imported under full employment including trend}) \times (0{\cdot}881I_t) \times (\text{Actual value in 1938})}{(\text{Actual quantity, 1938}) \times (\text{Actual price without tariff, 1938})}$$

consumers' expenditure makes entrepreneurs add to their stocks in order to preserve their normal inventory ratio. Moreover, sometimes the element of speculation comes in to amplify the cyclical fluctuations.

In the case of the U.K., many categories of raw materials and semi-manufactures are imported both for home-consumption uses and for making exports. If the latter demand predominates over the former, then the quantity imported is determined, not so much by the general economic conditions at home, as by the exports of the corresponding category of manufactured goods. The import of raw cotton is a typical example.

This section also uses partial correlation analysis, but it involves a more elaborate technique. The basic data are the Board of Trade indices of quantity and average value for retained imports, which are given for five groups of commodities, of which we shall neglect two, "Animals, Not for Food," and "Parcel Post." The index numbers are given for the years 1928–29 on base 1924; for 1924 and 1931–36 on base 1930; and for 1936–38 on base 1935. H. W. Macrosty has given the figures for 1925–27 on base 1924.[1] We can therefore link all these together to give a continuous series on base 1930.

A more elaborate method is required for the tariff corrections. We must give separate considerations to specific duties, *ad valorem* duties, and Imperial Preference. The method adopted is to obtain from the *Board of Trade Journal* all the duty changes in the period, ignoring the effect during fractions of a year; then to work out the average duty on the category for the year 1924, using as weights the value of the items imported in 1930; and finally to correct this from year to year as the duties were altered (*i.e.*, by adding or subtracting each change in duty multiplied by the proportion which the value of the item to which the change applied bore to the total value of that category imported in 1930). In the case of specific duties, the duty was reduced to a percentage of the value per unit in 1930 of the item to which it applied, and the average specific duty was compiled as a separate series. This is therefore added to the average value instead of being multiplied into it.[2]

[1] H. W. Macrosty, "The Oversea Trade of the United Kingdom, 1924–31," *Journal of Royal Statistical Society,* 1932.

[2] The late P. R. Marrack has discussed the problem in great detail in an unpublished article; and this formula is his. He has made the corrections for several series for the years 1928–38, and also graphic representations showing the correlation between quantity, price and employment (without elimination of the trends).

Let A_b = the average *ad valorem* duty on commodities imported from British countries,

A_f = the average *ad valorem* duty on commodities imported from non-British countries,

S_b = the average specific duty on commodities imported from British countries,

S_f = the average specific duty on commodities imported from non-British countries,

I_b = the total value of imports in the category under consideration from British countries,

I_f = the same total for imports from non-British countries,

P = the Board of Trade Index Number of average value,

P_t = the index of average value corrected for tariffs.

Then,

$$P_t = P\frac{I_b(A_b + 100) + I_f(A_f + 100)}{100(I_b + I_f)} + \frac{I_bS_b + I_fS_f}{I_b + I_f}.$$

Moreover, it is theoretically desirable to express the price in wage-units. We make corrections accordingly. The final result is the " average internal value of retained imports in wage-units."

Let x_1 = log (quantity of imports),

x_2 = log (home employment),

x_3 = log (import price in wage-units corrected for tariffs),

x_4 = log (price in wage-units of similar home-produced goods).

If we take the quantities for a particular category of imports, we obtain a demand function for that category :

$$x_1 = a + bx_2 - cx_3 + dx_4.$$

The regression coefficients $+b$ and $-c$ are approximations to the employment-elasticity and price-elasticity of demand for imports. In contrast to the analysis applied to total imports, this conclusion is correct only under certain assumptions. These assumptions are: (1) that the quantity of imports is very large or very small compared with the home supply, or (2) that the home supply is very elastic to home price and is not much affected by general changes in home employment. If these assumptions are not fulfilled (or, in other words, if changes in x_2 and x_3 react on x_4), we require to know both demand and supply functions for home-produced goods used as substitute for the category of imports in question.

We now turn to the actual data. The three Board of Trade groups which we are considering are : (a) Food, Drink and Tobacco,

(*b*) Raw Materials and Articles Mainly Unmanufactured, and (*c*) Articles Wholly or Mainly Manufactured. This classification is not without defects, for in the third group many articles are in reality semi-manufactures imported for the final process of production in this country. But, even so, the employment- and price-elasticities of these general groups will be interesting and useful.

(a) *Food, Drink and Tobacco.*—The import price index is corrected for tariff changes, and then expressed in terms of the relative price level (as we have done before for the total imports)—*i.e.*, it is divided by the Ministry of Labour's cost-of-living index. Finally it is deflated by the index of money wage-rates, published by the London and Cambridge Economic Service.

The simple correlation between quantity of food imports and home employment is negative, −0·54. At first sight this is absurd, since the commodities of this group cannot in general be "inferior goods." But the data show that the price moves in the same direction as home employment, so that the phenomenon can be accounted for in either of two ways: firstly, if the quantity is very inelastic with respect to employment, but very elastic with respect to price; secondly, if the quantity is inelastic with respect both to price and to employment, but prices have fluctuated so greatly that they outweighed the influence of employment. We can choose between these explanations only after using partial correlation analysis.

The partial correlation coefficients are as follows:

Quantity on employment, with price constant . .	+0·55
Quantity on price, with employment constant . .	−0·80
Employment on price, with quantity constant . .	+0·91

The partial regression equation is:

$$\log x_1 = 1{\cdot}5268 + 0{\cdot}55 \log x_2 - 0{\cdot}314 \log x_3,$$

where x_1, x_2 and x_3 are quantity, employment and price respectively. The multiple correlation coefficient is 0·86.

As would be expected, the demand is inelastic with respect both to employment (+0·55) and price (−0·314), so we must choose the second explanation for the apparent anomaly mentioned above. The multiple correlation coefficient means that 75% of the fluctuations in the quantity can be explained by means of the variables of employment and relative price.

By the same method we obtain +3·7 for the partial regression of relative price on employment, quantity being kept constant. In other words, 1% change in home employment was on the average accompanied by a 3·7% change in relative price level.

Thus while the 1% increase in employment increased the quantity of imports by 0·55%, the simultaneous increase in relative price (associated with increase of employment) decreased the quantity by 3·7 × 0·314, or 1·16%. Thus there was a net decrease in imports of food-stuffs.

(b) *Raw Materials and Articles Mainly Unmanufactured.*—After correction for tariff, the absolute import price level is divided by the Board of Trade index of wholesale prices of industrial materials,[1] thus giving a relative price level. The regression equation is :

$$\log x_1 = 0{\cdot}1167 + 1{\cdot}4912 \log x_2 - 0{\cdot}551 \log x_3,$$

with a multiple correlation coefficient equal to 0·746.

(c) *Articles Wholly or Mainly Manufactured.*—The import price level corrected for tariff is divided by the same index as in (*b*). The regression equation is :

$$\log x_1 = 1{\cdot}3942 + 1{\cdot}4420 \log x_2 - 1{\cdot}12 \log x_3.$$

The demand for imports in this category is seen to be elastic with respect to variations in price; doubtless because most of the imported manufactures can be produced at home. The multiple correlation coefficient is 0·975, which means that only 5% of the fluctuations in quantity of imports cannot be explained as connected with variations of employment and prices.

(d) *Elasticities for Certain Particular Categories of Imported Commodities.*—Table III shows the elasticities of demand for certain imported commodities with respect to employment (E_e) and absolute import price in wage-units (E_i); and in several cases with respect to home price of substitute (E_h). The multiple correlation coefficient (R) for each category is also listed. It is interesting to note that on the whole the elasticities of the particular categories conform to those of the group to which they belong. For food-stuffs, E_e and E_i are both less than unity; raw materials have E_e greater than 1, but E_i less than 1; manufactures have both elasticities greater than 1.

Some imports are mainly purchased by consumers for the purpose of immediate or "deferred" consumption; others are used for the production of consumption goods; while some imports are mainly producers' goods. Table III is therefore divided into these three classes.[2]

[1] This index suffers from the defect that it consists of prices of many imported raw materials. We use it as deflator because of no better alternative.

[2] This classification is arbitrary; but it reflects the economic behaviour of a society better than the classification given by the Board of Trade.

TABLE III

Elasticities for Certain Particular Categories of Imported Commodities *

	R.	E_e.	E_i.	E_h.
I. *Goods Mainly Purchased by Consumers.*				
(1) For immediate consumption :				
Meat (I d)	0·85	0·12	−0·48	+0·72
Animals, living, for food (I c)	0·76	0·29	−0·38	—
Dairy produce (I e) †	0·89	0·43	−0·34	+0·17
Fresh fruits and vegetables (I f) †	0·87	0·56	−0·47	+0·35
Grain and flour (I a)	0·94	0·84	−0·59	+0·24
Tobacco (I i) ‡	0·89	0·98	−0·45	—
Feeding-stuffs for animals (I b)	0·70	2·00	−0·13	—
(2) For "deferred" consumption :				
Other textile goods (III l)	0·87	1·30	−1·70	—
Apparel (III m)	0·75	1·29	−1·80	—
Wood and timber manufactures (III h)	0·83	1·70	−1·80	—
Cotton yarn and manufactures (III i)	0·91	2·02	−4·69	+3·82
Cutlery, hardware, etc. (III c)	0·80	2·30	−1·10	—
Pottery, glasses, etc. (III b)	0·85	3·10	−5·90	—
Woollen manufactures (III j)	0·81	3·60	−5·40	—
Silk manufactures (III k)	0·78	4·70	−1·12	—
II. *Goods Mainly Entering into the Production of Consumers' Goods.*				
Paper-making materials (II l)	0·87	0·72	−0·10	—
Wool and woollen rags (II g)	0·74	0·89	−0·47	—
Other textile materials (II i)	0 90	1·01	−0·21	—
Hides and skins, undressed (II k)	0·76	1·05	−0·43	—
Raw cotton and cotton waste (II f)	0·66	1·37	−0·25	—
Raw silk (II h)	0·75	4·10	−0·46	—
III. *Goods Mainly Entering into Production in General : Producers' Goods.*				
Oil-seeds and nuts, etc. (II j)	0 86	0·90	−0·72	—
Oils, fats and resins, manufactured (III p)	0 64	0·91	−0·72	—
Wood and timber (II e)	0·60	2·13	−0·41	—
Electric goods and apparatus (III f)	0 88	3·10	−5·90	—
Non-metalliferous mining and quarry products (except coal) (II b)	0·96	3·10	−1·31	—
Machinery (III g)	0·95	3·16	−2·10	—
Non-ferrous metals and manufactures (III d)	0·69	3·40	−4·50	—
Non-ferrous metalliferous ores and scraps (II d)	0·86	4·14	−0·31	—
Iron and steel manufactures (III c)	0 72	5·10	−1·15	—
Vehicles (III s)	0·84	6·45	−1·10	—
Iron ore and scrap (II c)	0·94	9·45	−1·91	+1·27

* The number in parentheses indicates the category number in the Board of Trade's classification. The rest of the categories have not been dealt with. The sources of the price of home-produced substitute are :

(1) Meat : Compiled by taking weighted average of the prices of mutton, beef, lamb and pork, as published in *Agricultural Statistics*.

(2) Dairy produce : Compiled by taking weighted average of the prices of milk, egg, cheese and butter, published in *Agricultural Statistics*.

(3) Fresh fruit and vegetables : The price series of "Fruit, vegetables and glasshouse produce" has been published in *Agricultural Statistics* for the years 1927–38.

(4) Grain and flour : For 1927–38 the price series of "cereal and farm

The square of the multiple correlation coefficient indicates the percentage of fluctuations in quantity of imports which can be accounted for by a linear relationship with the variations of employment and import prices (and in several cases also of the home prices of substitutes). In our present study, the significance of the correlation is different for individual categories of commodities. But in general we may say that the changes in home employment and import prices are important factors in determining the behaviour of individual commodities.

With the exception of "feeding-stuffs for animals," all categories in the group of "immediate consumers' goods" are rather insensitive to employment changes. This is in accordance with the fact that consumption, though closely related to income, changes less than in proportion to income. The price elasticities are low, because the U.K. is not self-sufficient in food-stuffs, and is therefore bound to buy abroad. The presence of home-produced substitutes does not alter the situation, as their total quantity is small in relation to the total home consumption.

The "deferred consumers' goods" show an elastic demand with respect to changes in employment. The employment-elasticity of silk manufactures is very high, because they are generally luxuries. The demand in this group is elastic with respect to changes in import price because there are home-produced goods competing with the imports.

Most of the raw materials in the Group II show an elastic demand with respect to changes in employment; but all of them are inelastic to changes in import price because they cannot be produced at home.

The demand for "producers' goods" is very elastic with respect to changes in employment. This reflects the fact that

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crops" in *Agricultural Statistics*; for 1924–26 the prices of wheat, oats and barley.

(5) Cotton yarn and manufactures: It is obtained from the unpublished dissertation of Mr. Y. N. Hsu.

(6) Iron ore and scrap: The index of the home price of scrap can be obtained from Mr. Tew (also unpublished dissertation). The average value of iron ore per ton can be computed from the statistics of total weight produced and of total value, published in *Statistics of the Iron and Steel Industries, 1937*, then it has been reduced to an index number on base 1930. The figure for 1938 is based upon estimation. Finally, the two indices have been given the same relative weights as ore and scrap have in the import index, to combine into a single index. This is the method used by Marrack.

† For 1928–38 only.

‡ The index of quantity has been corrected for changes in stocks.

employment in the heavy industries fluctuates much more than employment in general. Where there are substitutes produced at home, the demand is also elastic with respect to changes in import price.

Moreover, if a considerable part of certain raw materials is used for making exports, then the volume of British exports of those particular manufactured goods is also an important factor in determining demand for imports. Raw cotton and wool are two typical examples. Let E_x be "export-elasticity"; our results are as follows:

	R.	E_e.	E_i.	E_x.
Raw cotton and cotton waste:				
(1) As shown in Table III . . .	0 66	1·37	−0·25	—
(2) Including volume of exports of cotton manufactures as a variable . .	0·91	0·65	−0 31	+0·83
Wool and woollen rags:				
(1) As shown in Table III . . .	0·74	0·89	−0·47	—
(2) Including volume of exports of woollen manufactures as a variable .	0 87	0·32	−0·39	+0·65

IV. Summary

The findings discussed above may be summarised as follows:—

(1) The total British demand for imports is largely determined by changes in home employment; and the level of relative import price is also important. The demand with respect to the changes in employment is elastic; but inelastic with respect to changes in price.

(2) The marginal propensity to import of the U.K., which fluctuates with changes in terms of trade, probably lies within the limits of 0·14 to 0·3.

(3) The value of the British demand for imports under full employment and 1938 conditions cannot be less than £1,300 millions, because the terms of trade are likely to turn against the U.K.

(4) Individual categories of imported commodities manifest a variety of behaviour patterns, reflecting the different types of domestic demand for imports. In most cases changes in general home employment and in import price are still important factors. On the whole, the employment- and price-elasticities of particular categories conform to those of the group to which they belong: food-stuffs have both elasticities less than unity; manufactures

have both greater than unity; for the raw materials, employment-elasticity is greater than unity and price-elasticity is less than unity. But in some cases changes in stocks, prices of home-produced substitutes and volume of British exports of particular manufactures are also important.

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THE FUTURE OUTPUT OF THE CONSTRUCTIONAL INDUSTRIES IN THE UNITED STATES

THE prosperity not only of America, but also of many other parts of the world, is dependent on recovery being set in motion in that country on the first signs of a slump, and on sufficient effective demand being brought continuously to bear on all the available factors of production. The part to be played in this prosperity by the constructional industries is to some extent obscured in America, as indeed also in Great Britain, by the "unbalanced" peculiarities of the immediate post-war situation, during which, in both countries, economic recovery is being dominated by the need for replenishing inventories and for general readjustment to civilian demand. This will be the period of the initial boom. In this period the constructional industries will compete with other industries for temporarily scarce factors.

But in a longer run, especially in America, there may be an acute necessity for a large volume of constructional activity to ensure that all the resources of the country are absorbed. Indeed, the need for a large constructional programme to absorb unemployed labour may everywhere arise sooner than has been commonly anticipated. Some studies of American conditions suggest that under full employment it may be a key-point of the economy,[1] and this country, too, may find that the full employment of building and civil engineering labour needs a carefully adjusted demand. In Germany, also, though figures are lacking, it may be difficult to keep a de-industrialised population fully employed without a considerably expanded constructional labour force, and this provides an example of a similar planning problem that may well be compared in size with the problem in America.

As Mr. Rasminsky has pointed out,[2] unless there is a complete embargo on international trade, no country can insulate itself from the shocks likely to be caused all over the world by a recession in the American economy. The future prospects of the constructional industry in that country, therefore, have a special importance for the well-being of the world, and particularly for

[1] *E.g.*, wages and salaries under full employment are estimated for contract construction at 192% above the 1944 level in Table IV of "Incomes from Wages and Salaries in the Post-War Period," by R. J. Myers and N. A. Tolles (*Monthly Labor Review*, September, 1945).

[2] ECONOMIC JOURNAL, June 1945.

Great Britain, with its relatively high proportion of foreign trade to total national income.

The constructional industry has a greater importance for the internal economy of America than is commonly realised. As Professor Alvin Hansen has remarked,[1] "With respect to the Great Depression of the 'thirties, it is worthy of note that the constructional boom of the 'twenties was the greatest in our history and that the precipitate decline in building after 1928 exceeded that in any earlier period." It is commonly accepted that, in America, the building cycle is on the average about twice as long as the major business cycle [2]—that is, about seventeen years, as against eight and a fraction, and the result of the two cycles together is that every alternate major business boom coincides with a boom in building construction.[3] It is clear, then, that after the interruption of the war, the business cycle that is now about to run its course in America is one of those likely, according to the evidence of a century, to coincide with an acceleration in constructional activity.

What, then, are the prospects? Does the American constructional industry really stand at the beginning of a period of intense and sustained activity? At what rate will the labour force on building enterprise, in fact, be built up? It is useful to consider, although at the disadvantage of being separated by the Atlantic from the actual conditions under discussion, what these prospects seem to be. In the following pages the information available in this country, including the many highly specialised studies made by the American Bureau of Labor Statistics and National Resources Planning Board, has been used to assess the likelihood of such a boom. Moreover, the discussion that follows may throw some light on the nature of the problems inherent in a large-scale building programme.

It is necessary to discuss :—

(*a*) the magnitude of the man-power problem, and the rate of build-up of labour employed on construction;

(*b*) the total value of the public and private demand for housing and building anticipated by American economists writing on this subject. Some of the articles under consideration were written some months ago,[4] and the position

[1] *Fiscal Policy and Business Cycles*, p. 24.

[2] *Op. cit.*, p. 22.

[3] Professor Hansen gives 1837, 1857, 1873, 1893 and 1929 as dates of business boom turning-points that coincided with recessions in constructional activity.

[4] *E.g.*, Robinson Newcomb: "Can the Construction Industry Carry its

needs to be re-assessed.[1] Furthermore, it is interesting to consider some of the wider aspects of the problem, and to attempt to relate the anticipated building boom to the general background of American economic conditions. (*b*) may be considered under the headings :—

(*b*) (i) the social and economic factors affecting the demand for housing and building;

(*b*) (ii) whether some demand law for housing may be devised and used as a basis for roughly computing the likely magnitude of demand in the future.

Thirdly, there remains

(*c*) the relation of construction to the National Income in the United States as compared with this country, and the time-lags involved in establishing a "normal" relationship.

From a discussion of these points it may be possible to draw some general conclusions as to the economic importance of an American building boom.

(*a*) Magnitude of the Man-power Problem

The rates of build-up, planned or discussed for the constructional labour forces in the U.S.A., Great Britain and Germany may be compared as follows :—

Labour Forces to be Employed (Thousands.)

	U.S.	U.K. (insured males aged 16-64).	Germany (new Reich boundaries).
End of :			
War	900	578	700
First post-war year	1,250	850	980
Second post-war year	1,750	1,070	1,600
Third post-war year	2,500	1,300	2,250
Fourth post-war year	2,900	1,500	2,800

Immediate Share of Post-war Employment?" (*Review of Economic Statistics*, August 1945).

Bureau of Labor Statistics : "Probable Volume of Post-war Construction" (*Monthly Labor Review*, February–April 1945, subsequently published as Bulletin No. 825), and "Site Employment in Post-war New Construction" (*Monthly Labor Review*, July 1945).

A. Smithies, S. Morris Livingston and J. L. Mosak : Articles forecasting post-war demand (*Econometrica*, January 1945).

For further bibliography, see Everett E. Hagen : "Postwar Output in the United States at Full Employment" (*Review of Economic Statistics*, May 1945).

[1] The latest information on American intentions comes from the "Veterans' Emergency Housing Program," a Report to the President from Wilson W. Wyatt, Housing Expediter (February 7, 1946). This programme has not received Congressional sanction at the time of writing.

The U.S. figures in this table are based on estimates given in the *Monthly Labor Review*,[1] the British figures on the announced White Paper policy of 1½ million men in the building industry, and given (*a*) the current rates of build-up, and (*b*) the assumptions that this target will be reached by early 1949, and that there will be a normal proportion of civil engineering labour. The German figures are derived from such information as is available of the probable order of magnitude of the employment problem in that country. It is assumed that, to attain full employment, Germany may need 2·8 million workers in building and construction by July 1949, as this seems to be the residual figure left for this industry according to the Allies' plan, although not specifically mentioned therein.

The point that stands out is that, for three years at least, the United States needs not only a much greater absolute increase than Great Britain, but a faster proportionate rate of build-up. America aims at increasing its labour force in four years from 900,000 to nearly 3,000,000; Great Britain in the same period from 578,000 [2] to 1,500,000. To attain these rapid adjustments in the size of the labour force engaged on construction, certain conditions must be realised. Briefly, there must be an effective demand for the output of the labour forces sufficient to attract and retain labour for this purpose away from alternative purposes, and this effective demand must be capable of absorbing labour at definite dates.

Effective demand in this connection implies three things. First there must be a need for buildings, the term " need " being defined in the very limited sense of a need which private individuals or public authorities have for constructional works. It may be presumed that neither churches nor schools nor houses will be built unless somebody wants them and will use them when they have been completed.[3] This condition has to be fulfilled unless a building programme is to consist of producing useless public works. Secondly, the need has to be supported by adequate public or private finance. If the price at which houses are obtainable is greater than that which private individuals can afford, then either a public body subsidises house-

[1] *Op. cit.* (February–April 1945). Mr. Wyatt's programme requires 1,150,000 workers on site (for housing alone) by mid-1947, which implies an even steeper build-up of labour in the industry than that shown in the table.

[2] *Monthly Digest of Statistics*, No. 3, Table 68.

[3] Or in other words "need" is the equivalent of an anticipated positive marginal social or private net product sufficiently greater than zero to be discernible by the prospective public or private building owner.

building or the need remains ineffective. Thirdly, the organisation must exist for placing contracts at such intervals as will result in the absorption of the desired labour force at the appropriate rate. Such organisation is at best complicated and diffused through numerous agencies, since urban development touches on so many interests, and also because the very nature of building operations is the co-ordination of a large number of small contributions in a final result. The organisation may take one of many forms, but it must exist if contracts are to be let and operated.

There has been extensive war-time experience in the United States and in this country of letting contracts for constructional work, including large-scale temporary and permanent war-time housing projects and pre-war public works schemes. The kind of administrative, seasonal, and organisational lags that occur between the date of the official decision to proceed with a programme and the actual employment of work-people on sites is not only on record, but has been fully analysed.[1] Similar analyses could no doubt be made from official archives in this country. There is thus a background of experience against which to test delays inherent in constructional programmes. More attention will be given to this point in the concluding section of this article.

The American forecast of labour to be employed, worked out in the *Monthly Labor Review*,[2] was not, at the time of writing, embodied in legislation or in announced Government policy, and it was calculated before victory in Europe. The method followed by the investigators was to assemble all relevant data that would help them to publish an " informed opinion " of the likely volume of post-war constructional activity. They carefully qualified their conclusions by pointing out that they were not making a " strictly mathematical forecast " for which " neither the techniques nor the data sufficed," but that they were putting forward a reasonable estimate based mainly on a study of trends and a study of such programmes as had been tentatively drawn up. They approached their task by first making inquiries not only as to the actual existing programmes of Federal and State agencies, finance organisations, public utilities, etc., but also as to the past experience of the country in construction and the financial history of various classes of buildings put up from 1920 to 1940. It is these realistic but tentative estimates that now must be

[1] See, for instance, National Resources Planning Board " Economic Effects of the Federal Public Works Expenditures, 1932–38 " (November 1940).

[2] *Op. cit.* (February–April 1945).

re-assessed in relation to the needs of the country for 1946 and 1947, to the probability of an effective demand, and to the organisation of both the building industry and of the various agencies concerned in building work.

The next point to consider is what the size of the labour force to be employed on construction looks like in comparison with previous periods. For the fourth post-war year the total of 3·1 million men-years of employment is made up of 2·25 million men-years on private and 0·85 on public account. 1·2 million men-years of the predicted programme would be for new residential building. In value terms and at 1940 prices, this means that the output of the industry would rise, in the view of the estimators, from $4·5 bn. in the final war-year to $12·1 bn. in the fifth post-war year—that is, to an average of $10·9 bn. for the first five years. The figures are shown in Table A.

The first post-war year was likely to be transitional and, from the longer term point of view, the significant comparison with the past is between the average of the four post-war years after the first and the average realised for earlier periods. Figures for " Period I " (1926–29) and " Period II " (1936–39) have therefore been inserted for comparative purposes, at 1940 prices.

The comparison shows that the investigators were anticipating a rapid rise in constructional activity to the boom level of the late 1920s (called, for convenience, Period I), and to an output in the private sector of more than twice the level of the immediate pre-war years (Period II). Public expenditure was not to exceed Period II by quite so great a proportion, but nevertheless it was to be above any previously realised level by about 45–50%.

The types of work on which this great increase was to be realised were diverse; compared with Period II, housing and highways outputs were to be doubled, and commercial expenditure expanded by over 200%.[1] The investigators, in short, were predicting the greatest building boom in American, or world, history.

The rate of build-up depends not only on the rate at which contracts are planned and let, but also on the rate of labour absorption of which they are capable once they have started. For the smaller contracts (less than $25,000) peak employment is realised two or three months after work has started, and progressively later, running up to six or seven months, as the size

[1] Newcomb suggests 100% increase for all building activity for 1946 on 1945 and 100% increase again for 1947 over 1946 (*op. cit.*, p. 119).

TABLE A

Probable Value of Post-War Construction in the United States Compared with Averages for Two Earlier Periods ($ million)

(Figures at 1940 prices.)

Type of construction.	Average for Period I, 1926–29.	Average for Period II, 1936–39.	Final war year.	First 5 post-war years.					Average for the 4 post-war years after the first.
				1st.	2nd.	3rd.	4th.	5th.	
Total new construction	11,390	6,284	4,460	7,890	10,870	11,805	11,990	12,065	11,683
Private	9,228	4,040	3,045	5,765	8,015	8,560	8,545	8,595	8,429
Public	2,162	2,244	1,415	2,125	2,855	3,245	3,445	3,470	3,254
Housing	4,445	2,689	1,260	2,945	4,045	4,425	4,490	4,640	4,400
Highways	870	782	500	900	1,200	1,400	1,500	1,500	1,400
Commercial	1,258	425	875	750	1,300	1,350	1,350	1,250	1,313
Industrial	723	441		500	700	750	750	750	738

Source: *Monthly Labor Review*, February 1945.

of contracts increases.[1] Size, indeed, was found to be the most important factor determining the rate at which projects began to yield employment after the beginning of construction.[2] Thus a large number of small projects let at once gives quicker immediate results on employment than an equal value of work let in larger blocks. Of course the smaller projects peter out more quickly, and do not give a steady volume of employment for many months on end unless constantly renewed or replaced by further batches of small works. To obtain such a steady flow a carefully co-ordinated programme is necessary.

There may develop sudden spurts and a growing volume of constructional employment in a private enterprise economy when the demand for housing is high; but, without any kind of housing programme, it is not clear why there should be both a steady and a rapid rise. Even for the all-time peak level of constructional employment in the U.S., in 1942, under war conditions, and for a financially "unlimited" Government demand, the index of constructional activity was only 66% above the level for 1940.

Labour figures are not available, but the above percentage for activity indicates fairly well the limit of the possible build-up of labour even in very special circumstances of demand. Under present organisation the intended rate of increase of 100% in the labour force in two years, or even faster, would therefore seem to be unduly optimistic. This will not be apparent immediately, since arrears of maintenance, which are essentially small-scale work, may at first absorb labour quite rapidly. In Great Britain, for instance, the employed labour force rose from 520,000 in June 1945 to 734,000 in February 1946,[3] despite the fact that only 53,000 or so were employed on permanent new housing at the latter date. But arrears of maintenance are not so heavy in the United States as here, and it is difficult to see how the increase in employment can be sustained, without planning, until 1950.

The value of building actually done from June to November 1945 was at an annual rate not much over 50% of the annual rate anticipated by the articles under review in 1945 (which were, of course, written without knowledge of when the war would end). For this period residential building was proceeding at a rate of about $1 billion per annum (at current prices)—that

[1] *N.R.P.B. Economic Effects of Public Works Expenditures*, p. 93: study of a sample of 249 contracts.

[2] *Op. cit.*, p. 97.

[3] *Monthly Digest of Statistics*, No. 3, Cmd. 6766, and the *Architects' Journal*, April 11, 1946, p. 285.

is, at not much more than 25% of the anticipated rate for this item. As a matter of fact, up to November 1945, publicly financed building was nearer to its target than the privately financed section of output. Thus the actual rise in activity necessary to attain the boom that has been anticipated will have to be accelerated, and new works planned on a much larger scale than has yet occurred.

(b) (i) Social and Economic Factors Affecting the Demand for Housing and Building

The assessment, even if somewhat rough, of the demand law for houses and buildings generally must therefore be attempted. The assessment is necessarily rough because the relationship between human need and effective demand for shelter is complicated by many social as well as economic factors. It is for this reason, indeed, that all attempts to measure a simple correlation between growth in population, or in the number of families, and houses built, have broken down or led to inconclusive results.[1]

It should be emphasised that there is a major distinction between " human need " and " effective private demand." Any definition of the " human need " for housing (or other building) is necessarily arbitrary, or, more exactly, non-economic—that is, it must be based on some idea of the minimum necessary standard for living-space and amenities with due reference to the general sociological standards and customs of the time and place under consideration. " Effective private demand " is more nearly a purely economic concept. But in attempting to relate the number of houses demanded to a price offered it has to be remembered first that " a house " is not a homogeneous unit, secondly that families are of a widely varying composition, thirdly that the distribution of present and anticipated future family incomes affects the demand, fourthly that the demand for houses for purchase is affected by different considerations than the demand for houses to rent, fifthly that rent frequently includes a charge for services other than shelter (heating or attendance), and finally that the demand varies geographically with climate and as

[1] Mr. J. B. D. Derksen has calculated an equation relating U.S. residential building activity to a shortage or oversupply of dwellings two years previously, and measures this factor by the ratio of the number of families to available dwelling units. The lag itself, however, may be irregular, and it is unwise to forecast from this equation (see "Long Cycles in Residential Buildings: An Explanation," *Econometrica*, 1940, p. 97). See also L. J. Chawner, "Residential Building," National Resources Committee, Housing Monograph Series No. 1 (1939).

between different classes of the community, for a number of sociological and other reasons. Thus even "effective private demand" is difficult to assess.

Some quantitative idea of the effect of these different influences on demand may be derived from the detailed studies made by the Bureau of Labour Statistics of samples of family budgets in 1935–36.

According to a well-known law of expenditure, the higher the income-group the lower the percentage of total expenditure spent on rent (or expenses of home ownership), and this law was borne out in each region for which the sample was taken. To extract some of the figures, three regions showed the following results for three selected income classes : [1]

Total Expenditure for Housing as a Percentage of Total Expenditure for Family Living (1935–36)

Income class.	New England.	East Central.	Rocky Mountains.
$			
500– 749	35·2	33·7	27·3
1750–1999	26·3	26·0	22·9
4000–4999	21·2	24·4	19·7

Similar falls occur if the expenses of fuel, lighting, etc., are excluded from the housing expenditure figures.

But the housing provided for the families in the different income-groups is not, of course, the same either in quality or quantity. The richer families paid a lower percentage of their total expenditures, and yet attained a service superior in quality.

Again, an analysis of the total expenditure for housing by family type shows that, for all income-groups, there was a tendency for the larger families to spend a smaller percentage of total consumption expenditure on housing. This is probably only another way of saying that expenditure on food and other necessities for large families reduced their available expenditure per head, so that, despite their greater housing needs, their effective demand was less. Wage-earners and clerical workers spent (in the same income-groups) less on housing than independent business and professional men or salaried persons.[2]

Then, again, the larger families (in the same income-groups) and the lower income-groups were in a measurable degree less

[1] U.S. Department of Labor, *Family Expenditures in Selected Cities*, 1935–36 Bulletin, No. 648 (published 1941), Table I, p. 5.

[2] *Op. cit.*, Table B.

prone to become owners of their dwellings. Ownership of the home was more prevalent among families of business and professional men than among wage-earners and clerical workers of like income for most groups, but, above the level of $1750 per annum, wage-earners tended to own their homes more frequently than others.[1]

To sum up, the net effect of the conflicting social influences on the demand for housing-space in the United States is that, for the urbanised part of the economy, housing is classifiable as a "necessity."[2] Family budgets have been collected at different dates in the United States and the data analysed; and for 1935–36, as for the other inquiries, the income-elasticity of the demand for housing worked out at between 0·7 and 0·9. This means that a 10% increase in family expenditure involves a 7–9% increase in expenditure on rents, or on annual mortgage payments according to the data available from budget inquiries.[3]

(b) (ii) A Demand Law for Housing

Over the country as a whole, the economic demand for new houses must be linked—or at least this hypothesis would seem to be in accordance with common sense—with the demand for all the houses already in existence. In this section, therefore, a test is made of whether there is not a demand law, though perhaps partly masked by the sociological factors mentioned above, for houses both new and old. A method of calculating such a demand law is sought by measuring the relationship between the quantity of "house-room" occupied in each year and its price relative to the prices of other things. A procedure for working out an equation of demand of this kind has been devised.[4] There is a difficulty, however, in framing an equation

[1] *Op. cit.*, p. 17.

[2] Adopting the basis of categorisation given by A. L. Bowley and R. G. D. Allen in *Family Expenditure*. A necessity is a commodity for which the income-elasticity of demand is numerically less than one.

[3] In some parts of the country, however, the income-elasticity figure was higher. At unity, housing reaches the borderline between being regarded as a "necessity" and as a "luxury." In farm areas, a figure as high as 1·2 was found. This means that, with a rising family expenditure, a bigger proportion would go on rent. The precise reason for this is not easy to find; it *might* arise with a very wealthy community tempted to spend more on rents—*e.g.*, by purchase of a second house per family, as incomes rose—or, more likely, it was due to backward rural areas where agricultural incomes were low and where alternative means of expenditure with rising incomes were scarce.

[4] It was suggested by a study of the method used by R. Stone in his *Analysis of Market Demand*, a paper read before the Royal Statistical Society, April 24, 1945.

of this kind, especially in the case of housing. The quantity of "house-room" purchased in any year is determined by supply factors as well as by demand. In making a statistical study of the amount of house-room actually purchased, this has to be borne in mind. Furthermore, the approximate general equation of demand for the whole U.S.A. may be compared with an equation of demand calculable from a comparison of rents, incomes and the sizes of house occupied in different states and cities.

The quantity of house-room demanded per head of the population, for a given price, might be expected, other things being equal, to go up and down with the total income available for expenditure. Thus, the first of the variables to be measured from year to year is expenditure per head on consumption. For practical purposes, over the years under consideration, this amounts to very much the same thing as measuring movements in income, since savings were a fairly stable element out of income; thus we shall refer to "income-elasticity of demand for housing" as meaning the ratio of a small relative change in expenditure on house-room to the associated change in total consumption expenditure.

Secondly, there is the price of house-room. As this rises, the amount of house-room demanded will fall, and vice versa. For measuring this, an index of rents will suffice.

Thirdly, there is a price-index for all other consumption goods. A rise in the prices of other goods may affect the demand for housing in two ways: by the "income-effect"—through diminishing real income; and by the "substitution-effect"—in providing the possibility of a switch in demand from other goods towards housing. These influences, it is well known, work in opposite directions for this variable. (In the case of the second variable the two effects, of course, act in the same direction, and we know that a rise in price will be associated with a fall in demand.)

For an equation of demand, q may be written for quantity of house-room demanded per head, c for consumption expenditure per head, p for a rent-index, and p' for a price-index of all other consumption goods.

The data used in the first method relate to the years 1929–42. The figures indicate that the demand law for house-room is not likely to have changed very much from year to year over this period, and, on this assumption, the equation has been confined to the variables mentioned above without introducing time as a separate variable.

In treating q as a function of c, p and p', any number of equations might be chosen, but the form of the equation becomes determinate if two further assumptions are introduced. First, constant elasticity is assumed—*i.e.*, a proportionate change in any of the three variables will have the same proportionate effect on q at any point on the demand curve.

This means that $q = Kc^r p^s p'^t$ when K, r, s and t are constants.

Secondly, it is assumed that demand remains unchanged when income and all prices rise or fall in the same proportion; for instance, a 10% rise in income, rent and other prices leaves q unaltered. This means that the sum of r, s and t is zero.

The equation may then be written $q = Kc^{-s-t}p^s p'^t$ or, in a more convenient notation for further analysis,

$$q = Kc^{\alpha+\beta}p^{-\alpha}p'^{-\beta}$$

A demand law set out in this way is necessarily a simplification. But, in so far as some stability of taste and habit may be held to prevail in the American economy, and in so far as the factors of supply are not correlated with the demand factors that have been listed, a study of the quantitative values for this equation provides some basis for estimating q in relation to changes in income, rents and prices—that is, for assessing the likely magnitude of the effective demand.

It is attempted to derive the constants in this equation from a regression between time-series for the period 1929–42. Unfortunately, no direct statistical measurement of q, the quantity of house-room taken up, is at present available; instead, we have to rely on the total expenditure on housing incurred each year. Writing V for this, v for housing expenditure per head and N for total population, we have

$$q = \frac{v}{p} = \frac{V}{Np}$$

Similarly c is obtained from total consumption expenditure C

$$c = \frac{C}{N}$$

The values of N, C, V, p and p', on which our analysis is based, are given in Table B, p. 221.

Our assumptions imply a linear regression of log q on log $\frac{c}{p}$ and log $\frac{c}{p'}$.

It is preferable to re-arrange the equation in such a way that it contains the measurable items V, N, C, p, p', and so that each of the variables refers to its (geometric) mean over the whole period (indicated by $\bar{V}$, $\bar{N}$, $\bar{C}$, $\bar{p}$, $\bar{p}'$). Thus the equation becomes :[1]

$$V = \bar{V}\left(\frac{N}{\bar{N}}\right)^{1-\alpha-\beta}\left(\frac{C}{\bar{C}}\right)^{\alpha+\beta}\left(\frac{p}{\bar{p}}\right)^{1-\alpha}\left(\frac{p'}{\bar{p}'}\right)^{-\beta}$$

Substituting numerical values, we obtain :

$$V = 8{,}716\left(\frac{N}{127{\cdot}8}\right)^{0{\cdot}671}\left(\frac{C}{64{,}240}\right)^{0{\cdot}329}\left(\frac{p}{109{\cdot}1}\right)^{0{\cdot}916}\left(\frac{p'}{106{\cdot}1}\right)^{0{\cdot}245}$$

TABLE B

Demand for Housing in United States

Year.	(1) Population, millions.	(2) Consumption expenditure, $ millions.	(3) Housing expenditure, $ millions.	(4) Price-index of Rent (1935–39 = 100).	(5) Price-index of Other goods (1939 = 100).
1929	121·8	78,426	11,010·1	141·4	131·8
1930	123·1	71,081	10,602·9	137·5	124·3
1931	124·0	61,418	9,879·1	130·3	107·0
1932	124·8	49,672	8,658·5	116·9	92·7
1933	125·6	46,552	7,571·7	100·7	90·4
1934	126·4	51,988	7,266·8	94·4	98·8
1935	127·3	56,449	7,312·6	94·2	102·3
1936	128·1	62,272	7,573·1	96·4	102·4
1937	128·8	66,219	8,054·4	100·9	106·3
1938	129·8	63,303	8,399·7	104·1	101·7
1939	130·9	66,466	8,596·9	104·3	100·0
1940	132·0	70,806	8,894·7	104·6	101·2
1941	133·1	80,606	9,410·9	106·2	109·2
1942	133·8	88,681	9,854·6	108·5	125·5

Sources : (1) *Statistical Abstract of the United States*, 1943, p. 3.
(2) *Survey of Current Business*, June 1944, p. 11 : Total consumption expenditures.
(3) *Survey of Current Business*, June 1944, p. 9 : Consumption expenditure, Group IV, 1–3.
(4) *Statistical Abstract of the United States*, 1943, pp. 404–5 : B.L.S. rent index.
(5) *Survey of Current Business*, May 1943, p. 17 : All consumer commodities, fixed weighted index.

where V, C are written in $ millions, N in millions, p and p' as index numbers. It will be seen that $\alpha = 0{\cdot}084$ and $\beta = 0{\cdot}245$.

Over the fourteen years measured, the income-elasticity of the total private demand for house-room emerges from the first

[1] An implied assumption of the equation is that population changes have an equal proportional effect on the demand for house-room. The equation thus cannot be used for estimating the significance of the population changes on demand; that can only be done by means of a study of the long-period cycle in residential construction on the lines suggested by Derksen and Chawner in the works cited above.

method as 0·33—that is, the exponent for the expenditure variable C. This means that a 10% increase in total expenditure would, other things being equal, result in a 3·3% increase in housing demand. This is a low value, and contrasts with an income-elasticity of over double this figure derived from studies of family budget data. This seems to indicate that a change from one income group to another results in a much bigger change in the demand for house-room than a movement in the national income as a whole. Any forecast of the future demand for house-room may have to be modified if a substantial redistribution of incomes or a big shift from lower to higher income-groups takes place.

According to the equation, the direct price-elasticity for housing demand ($-\alpha$ above) is estimated at $-0{\cdot}08$. This is a very low figure numerically, as might be expected. A considerable fall in rents is necessary to cause a moderate increase in the total amount of house-room demanded. Conversely, a small percentage increase in the number of houses available may have an enormous effect on the percentage movement in rents.

Rather different results are obtained, however, from the data for the different cities of the United States. In this second attempt at measuring income- and price-elasticity for house-room, data for the Census year 1940 have been used. The number of rooms occupied per head of population has been correlated with income per head and with rent per room, the data referring to the urban part of each of the American States. This gives a geographical comparison as contrasted with the time-series of the first method.[1] This method of calculation gives an income-elasticity of 0·584 and a price-elasticity of $-0{\cdot}449$. On the evidence, therefore, of regional differences at a given date a 10% increase in incomes would give a 6% increase in housing

[1] The variables correlated have been derived from data shown in the *Population and Housing Volume of the Sixteenth Census report* and (for income) in the *Survey of Current Business*, all of them reproduced in the *Statistical Abstract*. They were obtained as follows, in each case by State:

Demand for housing-space: Number of occupied urban dwelling units, *multiplied* by median number of rooms in urban areas, divided by urban population.

Income per head: Total income payments to individuals, divided by total population of State. A correction, based on the percentage of urban to total population, introduced so as to eliminate influence of rural areas and to obtain estimate of income per head in the urban part.

Rent: Median rent for all urban areas, divided by median number of rooms.

Other prices: No data available.

demand—about double the increase arrived at by our approximation over time. The data are not sufficiently reliable for conclusive results to be drawn, but it would seem that unit differences of income over time and from area to area result in a difference in the demand for housing of somewhere between 0·3 and 0·6.

In conclusion, it may be suggested that the low income-elasticity of the demand for housing in the 1930s was one reason why, despite a general recovery, no corresponding building boom developed. A gradual rise in incomes is not, in itself, sufficient to stimulate building recovery on a large scale. On the other hand, a substantial re-distribution of incomes, or a big internal shift of population, might precipitate the long-term building boom for which America has been waiting for so many years. The second outstanding fact—the lowness of the direct price-elasticity of demand—perhaps suggests the size of the social and economic forces that are at all times ranged against active public policy in the provision of housing; the protection of existing values has, of course, played an open part in circumscribing American public housing policy on a State and city level as well as Federally.

Use of the Equation for Extrapolation

The values obtained by the first method give, when tested, a calculated housing expenditure that fits the actual housing expenditure reasonably well. But it is clearly not certain how far such values may be trusted for extrapolation into the future. It is only possible to state, as a matter of opinion, that there does not seem to be any evidence that the underlying relationships now (despite the G.I. bill of rights, demobilisation, and the increase in savings) are fundamentally different from their mean values for 1929 through 1942.

Without, therefore, attempting a forecast, it is interesting to note that, according to these values, the demand for housing in 1946 will be of the order of 5% above the 1942 level. This 5% increase in the *total* demand for housing is consistent, of course, with a huge demand for new housing, such as is now being experienced. This extrapolation is based on the assumptions of some rise in disposable income for the country as a whole, and on the usually assumed rise in population. Any further substantial rise in income would, it seems, amply absorb the new housing predicted by the construction planners, but it is difficult to find evidence of a sufficient rise in current incomes to main-

tain this effective demand for total (and hence indirectly for new) housing before 1947 or 1948; it may be that effective demand may take time to settle at the new high level.

The "gearing" of this effective demand is interesting. If the values of the equation continue to hold, a rise of 15% in consumers' expenditures in the economy as a whole (due to a substantial rise in the national income or rather in the disposable part of it) would mean a further 5% increase in the total demand for housing on the 1942 level. This might mean a *doubling* of the demand for new housing. Here is the "relation" in full cry. Despite the low income-elasticity of the demand for housing as a whole, the demand for new housing may be driven up quite fast if there is a renewed fairly rapid expansion of the national income.

Thus it may be concluded that, on the housing demand side, the prospects of a building boom in America that will beat all previous records are definitely favourable. The main reasons for hesitating to believe in an excessively rapid development of the boom must therefore lie in doubts as to the adaptability of supply to demand. The great feats that the American economy has done in such adaptation for the automobile industry in the 1920s and for the shipbuilding industry in time of war make precedents for success in the construction field, but the conditions of the constructional industry are peculiar to itself. There are the difficulties of how to reduce costs, of lags between planning and execution, of land values, of materials' supplies, and of the structure of the industry. There is no space to examine all these aspects of the supply position, but in the following section some general points are discussed.

(c) The Relation of Construction to the National Income in the United States as Compared with this Country, and the Time-lags Involved in Establishing a "Normal" Relationship

In the accompanying diagram, the net value of constructional work undertaken in the United States from 1919 to 1943 is plotted against the National Income. The years 1919, 1942 and 1943 were unusually affected by war-time influences. For the remaining years, it will be seen on inspection that the points for the period 1920 to 1933 inclusive lie close to a straight line with slope 13 : 1, while the points for 1934 to 1941 inclusive also lie close to a straight line, sloping more steeply at 18 : 1. This

means that, in the first period, there was a tendency for national income to increase by $13 for every $1 increase in net constructional expenditure, in the second period by $18. This direct comparison of national income and net value of construction does not, of course, in itself reveal either a demand or a supply law, but it shows the net effect of both sides of the equation of demand and supply, and of both the effect of changes in income on construction and of changes in construction on national income.

Net constructional expenditure averaged $3\frac{3}{4}$% of the national income from 1920 to 1943. The total gross output of the industry (that is, the net product + the cost of materials and + the repairs and depreciation work done), as a percentage of the Gross National Product, was much higher—between $10\frac{1}{2}$% and $13\frac{1}{2}$% annually. But it is new works and net expenditure that are the factors that must expand to give direct employment in the constructional industry, since the value of repairs done in any year is fairly inelastic in the long run. It is clear from the graph that there must be a net constructional expenditure of between 6 and 8 billion dollars if the National Income rises to $140 billions. Such a net expenditure means a prodigious flow of new projects.

This means, for every year of full employment, considerable foresight, planning and certainty at an earlier period. Private building needs as much previous planning as public. Schools, blocks of offices, warehouses and factories are nearly all "hand-made" jobs, even though the separate parts of them are of an increasingly standardised type. A lag of seven to eight months has been a minimum between planning a project and commencing the contract for most large-scale projects. It is no doubt partly owing to delays in planning that the largest buildings in America have been built during the downswing of the building booms, often being completed at a time that was financially unfortunate.[1] Then there is the lag between award of the contract and the start of construction; this lag averaged forty-seven days for publicly-financed projects over $100,000 pre-war, and forty-nine days for projects under $100,000[2]—the figures suggesting the greater efficiency of the planning of the more complicated large projects. For private projects, the lag may sometimes be less, but also very frequently it is longer; the private contractor is

[1] See G. F. Warren and F. A. Pearson, *World Prices and the Building Industry* (New York, 1937), p. 113.

[2] *N.R.P.B. Economic Effects of the Federal Public Works Expenditures, 1933–38* (Nov. 1940), p. 87.

not concerned to "provide employment," but to complete his contract at a profit, and he will not begin work until his labour and materials' supplies are assured.

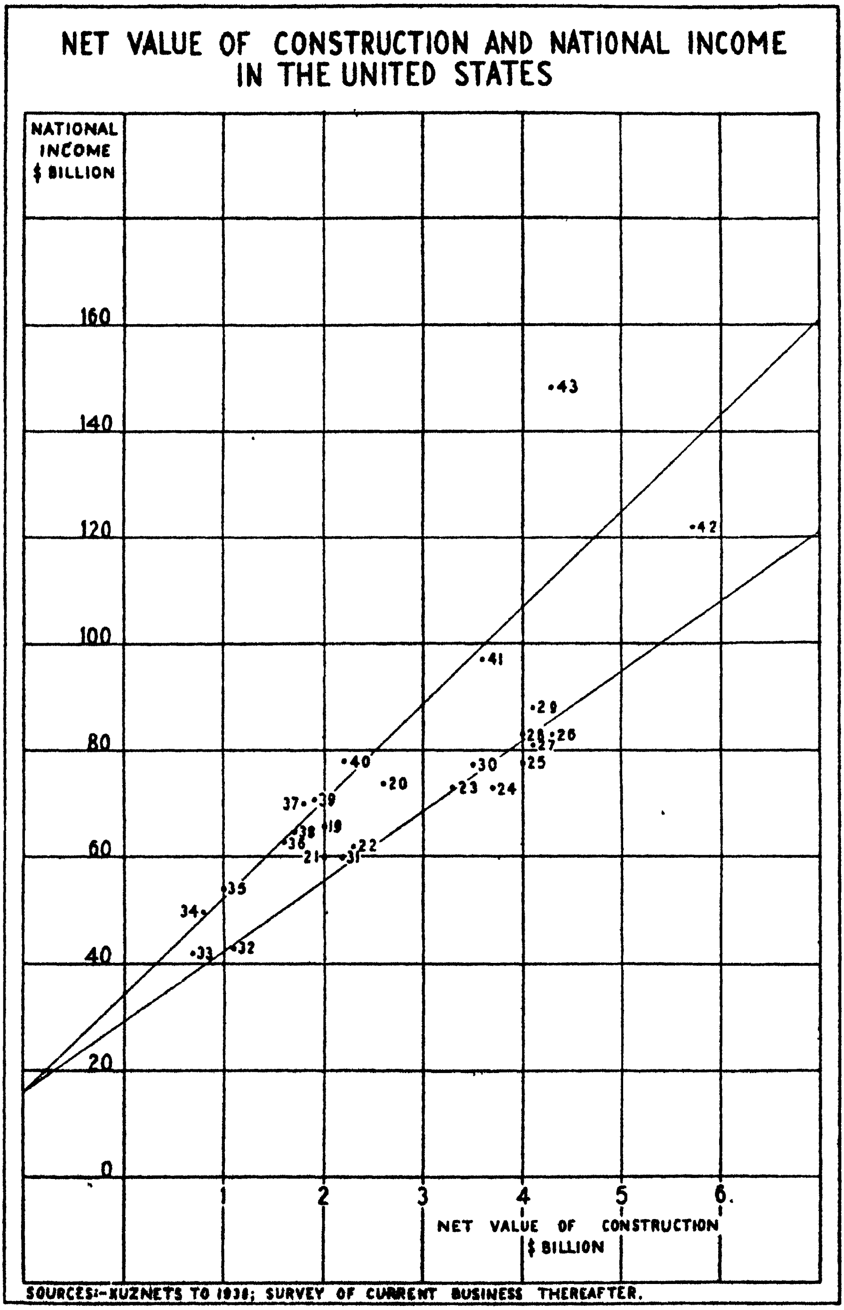
The diagram shows very clearly, by the big movement to the right of the points for 1941 and 1942 compared with 1940, and also by a fairly big shift between 1922 and 1923, that sudden annual rises in constructional activity are feasible. Certainly the supply conditions of the industry, both in the advance of the 1920s and the recovery of the 1930s, kept pace reasonably with the advance in the National Income.

The present dilemma is, indeed, only a part of the general problem whether full employment can be attained. Nearly every industry needs to employ more than before the war to keep employment at a sufficient level, and the constructional industries are only one special case of this necessity.

The American constructional industry, like the British, contains a large number of very small firms, and a small number of very large ones. The small firms were responsible for most of the house-building done before the war, the average house being built at the rate of two houses per firm per annum. The large firms concentrated on highways and civil engineering, but there were also large firms engaged on multi-storey apartments, industrial and office buildings. Of the 215,000 contractors (including specialist firms of craftsmen) returned at the Construction Census of 1939, 87% (184,000 firms) did less than $25,000 of work each per annum, and accounted for only 24% of the total output of the industry. At the other end of the scale, only 3·3% (7,000 firms) of the contractors doing large-scale business, accounted for 54% of all constructional output.

It has been found by experience that an industry constituted in this way is capable of great expansion and can be adapted to great changes in demand.[1] The numerous small firms can easily double their labour forces, and repeat the process again, without a proportionate increase of managerial staff. The large firms can take on several contracts without themselves being hampered with the problems of additional factory space and organisation. Nevertheless, both the small and the large firms are limited as to the speed with which they can handle such an expansion by the difficulty of finding a sufficient trained planning and managerial staff, including foremen, resident engineers, draughtsmen,

[1] Examples of such expansion occurred both in America and Britain during the war-years—*e.g.*, the sudden rise in the employment of labour by small builders in the London area on repair to damage caused by the flying-bomb.


NET VALUE OF CONSTRUCTION AND NATIONAL INCOME
IN THE UNITED STATES
NATIONAL INCOME $ BILLION
160
140
120
100
80
60
40
20
0
1
2
3
4
5
6
NET VALUE OF CONSTRUCTION $ BILLION
SOURCES:-KUZNETS TO 1938; SURVEY OF CURRENT BUSINESS THEREAFTER.

surveyors and building craftsmen. Thus, though the expansion is not intrinsically impossible, the rate at which it can take place is limited by organisational considerations, and by the speed at which training can take place.

The economic form in which the various limiting factors find expression is a rise in building costs. Building costs tend to rise in times of expanding building activity. Not only does the price of labour and materials rise, but also the margin charged by the contractor anxious to make hay while the sun shines. But it is not difficult for private demand, for large buildings especially, to be postponed, and rising costs may mean a damping down of demand.

Statistics on the earnings of the construction industry are not at all complete. Estimates given in Mr. Barger's book *Outlay and Income in the United States, 1921–1938* show that, over that period, "Residual" and "Long-term" incomes created in the construction industry [1] amounted to 15% of total incomes, as compared with 16·2% for Manufacturing, and 23·4% for all industries and services. This is possibly because the construction industry, like Manufacturing, carries a number of small firms which in total have small or negative incomes except in years of very good trade, a situation made possible by ease of entry into the industry. Firms with less than $50,000 of assets shows a substantial net loss in the construction industry in 1939, and even firms with $50,000 to $100,000 of assets made on balance a slight percentage loss in that year.[2]

The characteristics of the supply side of the industry suffice to account for its capacity to expand, and also for its inability to do so faster than at a certain rate. The profits to be earned, though sometimes high for a short time, soon get reduced by intensive competition. The rate of entry then may be reduced again. Thousands of new small firms appear in a boom, and then the inflow damps down. On this hypothesis of the normal workings of the industry, it is possible to foretell that the American industry will adapt itself to demand, but will not of its own accord accelerate at a pace equal to that necessary to full employment.

[1] Residual and long-term incomes are the total of incomes minus short-term items (wages and salaries).

[2] McConnell, *Corporate Earnings by Size of Firm* (*Survey of Current Business*, May 1945). The percentages relate to the reported corporate net profit before taxes and the total return to corporate officers and owners in relation to the calculated equity. See also W. L. Crum, *Corporate Size and Earning Power*, 1939, Chap. XIV, for 1931–36 figures.

It has not been possible to offer a full statistical justification for this last conclusion; the necessary data even for pre-war years are not available. But the general factors of delay on the side of supply are important enough to mention, even if they cannot be quantitatively analysed. Insufficient study has yet been made of the institutional and organisational features that cause a gap between a potentially effective demand for building and its satisfaction. Existing knowledge of these features suggests that, however large private effective demand may be, it cannot of itself attract resources to an industry where, in the short-run, marginal costs are rising very steeply, and where the long-run is always a matter of months, and in some respects of years.

Various legislative proposals are now before Congress for the provision of premium payments to secure increases in the production of conventional and new types of building materials by an early date—an idea which does not seem to have been mooted in this country; and to insure mortgages up to 90% of value even allowing for current high building costs. Local emergency housing committees are being formed and legislation is being proposed in individual States to implement the Veterans' Emergency Housing Programme.

The provision of \$6 to \$8 billions net of constructional expenditure by 1947 or 1948 cannot therefore be ruled out as utterly impossible, but there is no evidence that new works of the scale implied will in fact be planned and executed. While, in relation to a hypothetical enlarged national income, the demand, backed by Government-insured mortgages for residential building, may be available, there is no evidence that the supply—which, in turn, creates a substantial part of the national income—will be forthcoming at the rate required, without Government action possibly even more drastic than that already proposed as a result of the Housing Expediter's report.

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LADY RHYS WILLIAMS' PROPOSALS FOR THE AMALGAMATION OF DIRECT TAXATION WITH SOCIAL INSURANCE.

As Lady Rhys Williams published her proposals about the time of the Beveridge Report on Social Insurance it is natural to think that she was primarily concerned with the same subject as the Report. Indeed, it is probable she was, for the titles of her book *Something to Look Forward To*[1] and of the Liberal pamphlet *Family Allowances and Social Security—Lady Rhys Williams' Scheme*[2] both suggest this to be the case. Perhaps this is why we now hear so little about the scheme, for we seem to think we are generally agreed on the form that the National Insurance measure should take. Or, alternatively, it may be thought of simply as the political argument of a Party which did badly at the Election, and hence of little practical significance.

Whatever the reason, it is unfortunate, for the proposals have implications much wider than Social Security. They suggest the amalgamation and simplification of the methods by which most of the direct transfers of cash are made between individuals and the State, and that whether the transfers are to or from the State. By transfers are meant payments other than in return for goods and services. It is proposed to link social insurance with income tax in a way which makes both universal and simpler than at present. It is true that the *Economist* newspaper reported favourably under the title of "Beveridge-As-You-Go" on December 25, 1943, and as recently as January 12, 1946, in an article on "P.A.Y.E. Simplified" it made similar recommendations; it is true that some economists look upon the proposals as good; but otherwise they seem dead. Nevertheless they appear to have substantial advantages and to suggest a natural development of taxation and social policy.

Perhaps the best way to introduce Lady Rhys Williams' point of view is to quote her criticism of the Beveridge Scheme, for in effect it is also a criticism of all our social legislation for the past hundred years where that legislation has involved payments to, or for, needy citizens. She says "... the whole basis of the [Beveridge] Scheme rests upon the conception that

[1] Book, published by MacDonald & Co., E.C. 4.
[2] Pamphlet, Liberal Publication Dept., S.W. 1.

those who serve the community by working and producing wealth must not on any account receive State assistance or reward. . . ." [1] This conception goes back to the Poor Law of 1834, with its principle that monetary payments or other assistance to an employed person are pernicious, and that if we want to develop efficient workers they must be independent workers. The conception still remains in the modern Poor Law, for Article 8 of the Relief Regulation Order now in force states, "No able-bodied man shall receive relief in respect of any period during which he is in employment and in respect of which he receives wages or other remuneration." [2] It is true that within the past forty years the Poor Law has largely broken up, but still in most cases the person receiving "State" benefits has to prove either that he is incapable of work or unable to obtain it. A major exception arises in respect of contributory old age pensions, but it is interesting to note that this exception is modified in the new National Insurance Bill, where it is proposed that retirement pensions shall only be paid to men at the age of sixty-five on condition that they do, in fact, retire. It almost seems as if we wish to encourage men to cease being producers. It is realised that if a man works an extra five years the weekly amount of the retirement pension is to be increased and that the Government Actuary reports that "the increments to pension granted for postponement of retirement are fixed at such rates that actuarially they are broadly equivalent in value on average to the pension forgone and the additional contributions paid." [3] But many, no doubt, will look upon it in a rather different way. They will say—

> "If I retire at sixty-five I receive a pension of 26*s*. a week. An annuity of this amount would cost about £740, which presumably is the value of the pension. If I survive to the age of sixty-five my chances of continuing to live another five years so that I attain the age of seventy are about four in five. The State therefore could provide survivors with a pension worth $1\frac{1}{4}$ times £740 plus five years interest (say £125) plus an allowance for extra contributions and interest thereon. Now the contributions from insured person, employer and Exchequer for retirement pensions total nearly 4*s*. weekly [4]—say £50 in five years. The value,

[1] Book, p. 141.

[2] S.R. & O., 1930, No. 1860.

[3] *Report on the Financial Provisions of the National Insurance Bill* (Cmd. 6730), p. 24.

[4] Cmd. 6730, p. 7.

therefore, of my retirement pension if I attain the age of seventy ought to be £1,100. The value of the pension of 36*s.* a week, which is what I am to receive, is only £840. Therefore the State penalises me for being industrious after the age of sixty-five."

This is a criticism similar in character to that made by Lady Rhys Williams: "Not only will the idle get as much from the State as the industrious worker, they will get a great deal more." [1]

It seems therefore that we ought to examine again the principles upon which we grant State assistance, including therewith "insurance" payments. For years we have preferred to maintain a poor person fully whilst ensuring that he did no work for others rather than subsidise him in employment. But is there anything fundamentally wrong with a subsidy on wages if there are appropriate safeguards? The chief safeguards are that the subsidy should be universal, and should not be removed if wages are increased. It is all part of the problem of incentive to effort, and there is no incentive to a person to strive to earn more if in consequence he loses a similar amount of other income, such as subsidy. We might say that Article 8 of the Relief Regulation Order is simply a special case of the general safeguard; the subsidy on wages, being nothing, is not reduced as wages are increased. If we interpret the principles in this way we find that Lady Rhys Williams does not ask us to reverse our ideas, rather to carry them to a logical but at the same time practicable conclusion. It would be logical to say, no subsidy when wages are small, therefore no subsidy when wages disappear altogether. But that was impracticable in 1834; it was impracticable even to prohibit outdoor relief to the able-bodied in all parts of the country. The logical solution, therefore, is a subsidy equal to subsistence when there are no wages or other income, the maintenance of the same subsidy when wages are low and also when wages are high. The question of whether this is practicable, and whether we can afford it will be discussed, at least by implication, later.

Parliament has already shown that in some respects it is not averse to such an interpretation of the requirements of the situation. By its undertaking to pay children's allowances it has given an indication, even if it has not stated it explicitly, that it does not disagree fundamentally with the principles suggested by Lady Rhys Williams. On the basis that a large

[1] Book, p. 141.

proportion of children live in poverty, and that this poverty cannot be alleviated sufficiently by increasing payments to unoccupied fathers, the problem has been tackled partly by providing food and milk cheaply or freely at school, but also by deciding to make a flat rate payment of 5*s*. a week in respect of every dependent child after the first, that payment to be independent of the father's income and irrespective of whether he works or not. Apart from the fact that to grant the allowance to unoccupied fathers only would merely touch part of the problem, it is realised that if this were attempted it would remove altogether from many fathers with children the financial incentive to obtain employment. The problem was serious when the child's allowance under the Unemployment Insurance Acts was only 2*s*. a week; it would be worse now. For instance, the National Insurance Bill (1946) proposes to pay unemployment benefit of 49*s*. 6*d*. a week for a man, wife and one child. If a further 5*s*. a week were given for each of four additional children, the payment would be almost £3 10*s*., whilst if the man were to obtain employment he would be taxed almost 5*s*. a week for National Insurance as well as lose the 70*s*. a week unemployment benefit. He would be likely to have other additional expenses, such as for travelling, food and clothing, and it may easily be that he would need £4 to £4 10*s*. a week to be equally well off when working as when unemployed. We have therefore agreed to the principle of payments made to those working when they are neither old nor otherwise partially disabled, and there seems no reason of principle why the method should not be extended.

Having agreed that in certain cases, such as children's allowances, it might be possible to increase incentive to produce by continuing the State payments when the person is employed as well as when he is unemployed, we might consider further the possible influences of the two schemes. The influence of the National Insurance Bill in deterring effort is likely to be at a maximum for a man with a wife and at least one child dependent. If under seventy years old, the man sacrifices benefits of 49*s*. 6*d*. a week if he works instead of drawing unemployment, sickness or retirement benefit, whilst he has also to pay contributions of nearly 5*s*. a week. It is not unreasonable to say he sacrifices £2 15*s*. a week, and only receives the difference between his wage and £2 15*s*. a week for his effort, sacrifice of time and any necessary expenses arising directly from his employment. He has to earn a lot to make the financial return seem worth while. Under Lady Rhys Williams' scheme a fraction of everything he earns

would be an addition to his income—as indicated later, that fraction might be 12*s*. in the pound. Thus under National Insurance if a man earns £3 a week he only increases his income by 5*s*., whilst doing work which the community considers to be worth £3. Under the proposals here outlined his income would increase by £1 16*s*. a week. Compared with his income when unemployed a man has a greater increase when employed under this version of Lady Rhys Williams' scheme than he would under the National Insurance Bill, even if he earns up to an average wage of about £6 a week. Further, this assumes that National Insurance will not involve an increase in income tax.

Man with Wife and One Child Dependent.

	Nat. Ins. Bill.	Rhys W. Scheme.
	£	£
Earnings in year	200	200
Less Income Tax	—	80
Less Insurance Contribution	12	—
Net earnings	188	120
Add Basic Allowance	—	125
Net Income while earning	188	245
Income when not earning	129	125
Increase in net income as a result of earning	59	120

The National Insurance scheme, being based upon the Beveridge plan, constitutes a "serious attack upon the will to work." The scheme here described, as illustrated above, increases the financial incentives to obtain paid employment at least with wages up to nearly £6 a week. Nevertheless it is apparent that Lady Rhys Williams is very worried about the influence of her scheme on the will to work. If the national minimum allowance is sufficient for maintenance, will there not be a number of people content with that standard? Will there not be some who are unwilling to make the effort necessary to supplement the subsistence by the wages to be obtained from paid work? Her solution is the withdrawal of the basic allowance from any person who refuses the offer of suitable employment, and the modification of the scheme in such a way as to allow for unemployment and health insurance almost in their present form, including flat-rate contributions of 1*s*. 10*d*. a week, but without dependants' allowances. This is weakening the scheme by making it more complicated, for two deductions would be required from every

wage, and those on different principles. If a man will not work, we shall have to find some means of persuading him other than cutting off his means of subsistence. We ought to try to make our schemes automatic in such a way that the recipient of assistance does best for himself if he does what national interests seem to require, but do not let us make our social assistance into a police organisation designed to pick out a man whose actions are against policy.

One feature of the scheme is that the rate of income tax will have to be high on all incomes, including those small incomes which are now completely exempt from tax. This will have an important effect in encouraging some people to undertake casual work and obtain income therefrom on which they hope to avoid paying tax. As at present it would be impossible to collect tax on the income received by Mr. West as a result of painting Mr. East's house. Yet with tax on all incomes at 8*s*. in the pound this kind of arrangement might easily pay both West and East.

The problem arising from the high marginal rate of tax on all incomes acting as a deterrent might not be so serious as at first it appears. For many employments the marginal reward for service is also the total reward. If required, one works overtime, there is no real choice; on piece-work the speed of the machine determines output. If one refuses to work overtime when required, one does not keep the job for long. If one's piece-work output is low, then someone else is found to work the machine. Thus a workman often cannot in fact choose an upper limit to his week's work; he cannot stop work as soon as he decides that the marginal reward from working falls below whatever reward he obtains by not working. Present circumstances are exceptional, owing partly to the recent development of P.A.Y.E., which draws attention to the high marginal rate of tax, and partly to the extreme shortage of labour, which makes absenteeism possible without the loss of one's job.

Nevertheless, there should be somewhere in the scheme a safeguard against its possible adverse effect upon production. Lady Rhys Williams quite understandably wishes to maintain the adequacy of the basic allowances in all circumstances except refusal to accept suitable employment. Is this possible? Ideas of adequacy tend to rise, but if production in a country declines, might it not also be necessary to reduce the value of the basic allowances? In such circumstances it might be a costly business to increase production; it might even be necessary to pay out to producers not a decreasing but an increasing proportion of the

national product. Instead, therefore, of attempting to fix a real value to the allowances, it might be better to fix their cash value and try at least to maintain the net national money income, and leave it to the democracy of the economic system to determine how much the allowances shall be worth. If in such circumstances output declines, prices will rise, and at least the reward for effort will maintain its proportion of the total.

If it be assumed that the Government desires that money incomes should be controlled as a means of maintaining total expenditure in the full-employment policy, then Lady Rhys Williams' scheme, with its flat-rate taxation on personal incomes as they are received, would give week by week an excellent up-to-date measure of the distribution of part of purchasing power. There are other factors about the scheme which might help in the operation of a full-employment policy. If income fell, Government revenue would fall immediately, but its expenditure would not change; in the example here given a reduction of 10 units in the net national income would be accompanied by a fall of only 6 units in private income after paying tax, so that at the expense of an unbalanced budget the scheme would automatically help to maintain purchasing power. But if this was not sufficient, the rate of tax could be changed at any time, and the new rate would have its influence upon tax revenue immediately. This would be a far more powerful instrument than the power to raise or lower National Insurance contributions in accordance with fluctuations in the level of employment.

In the paragraphs which follow an attempt is made to describe Lady Rhys Williams' scheme in its simplest but nevertheless what is probably its most attractive form. The description is my own, though the amounts of benefit are those given in the Liberal pamphlet. Omitted altogether from this summary are references to special benefits, such as at birth, death, or marriage, and extra allowances for widows with dependent children. In the book there are also tentative suggestions for altering the allowances according to sex, or according to the age of children, and even according to differences in the average amount of rents in different localities. Obviously the details could be varied greatly.

We have a complex organisation for assessing and collecting income tax, an organisation which includes not only civil servants, but all the employers in the country. We have other complex organisations for investigating titles to State benefits in respect of unemployment, health and old age insurance and for paying

them out. We have further organisations for assessing and paying out State allowances, such as supplementary pensions and unemployment assistance. Another organisation is required for paying children's allowances. It is true that the new National Insurance Bill should lead to some of the complications being removed, but perhaps not so many as is generally thought. The position will remain very complex: the sick, the unemployed and the retired will still have to prove their titles independently; the Assistance Board will still be required. And this new complex scheme is coming into operation at a time when unemployment is likely to be higher than during the war, owing to the transfer of our resources to new kinds of production. The complexities will surely increase, questions of entitlements to benefits will become more difficult to decide. To take but one example, how will it be determined in practice whether and for how long a wife who has worked during the war is to be classed as unemployed? She may be doing household duties, but she might say that really she is seeking work, but unable to obtain any. When the acute shortage of labour is passed it will be difficult to test her, and even if work is obtained for her it is not always difficult for an unwilling worker so to arrange things that she is classed as unsuitable and dismissed. Problems of this nature caused much trouble between the wars, and many grievances as well. Surely our organisation in these matters of direct financial transfers between State and individual has become too complex. It needs an expert to know what an individual is due to pay and what payments he is entitled to receive in various circumstances. When an expert is needed, the individual often begins to feel that he may be getting unfairly treated.

There is a further objection that these various organisations set up piecemeal for specific purposes dispense cash or make claims at rates which differ in apparently similar circumstances. One of the most attractive features about the new Insurance Bill is that the anomaly that an insured man is better off when unemployed than when sick will be removed. Already supplementary pensions had done much to bring the old more into line with the unemployed. There remains, however, the difference in principle between the two methods of collecting direct taxation, one income tax and the other contributions to insurance payments. In the first case it is an accepted principle that people with higher incomes should not only pay more, but should also pay a greater proportion of their incomes. In the second case the same absolute amount is paid, irrespective of

income, for all those insured, the variations depending on age and sex, not on amount of income.

The scheme suggested here does not only propose the simplification by amalgamation of the social insurance schemes, but their incorporation also with most of our system of direct taxation. As expounded it is probably over-simplified, but this is to get the basic ideas understood.

The proposal is that everyone—man, woman and child—should have a basic allowance, and have it unconditionally. It should not be granted only on the basis of a medical certificate, or on proof of unemployment, or on attainment of a certain age, but universally. This allowance might be at the rate of £1 a week or, say, £50 a year for adults, and of 10*s*. a week (say £25 a year) for children, this latter provision being in effect a scheme of children's allowances. If there were 40 million adults and 10 million children in the country, the cost of these allowances would be £2,250 million a year. At present transfer payments on account of pensions, health and unemployment total about £300 million a year, whilst in this period of low unemployment there is also about £80 million a year which goes to swell the unemployment fund.[1] It seems, therefore, that the additional cost of these basic allowances over the present cost of social insurance and the supplementary payments would approximate to £1,900 million a year.

The above basic allowances would be free of income tax; not only would they replace most of the social insurance payments, but, as explained later, they would also replace the personal allowances of our present income tax. They could be payable through banks or post offices by presentation of vouchers, say one for each week, distributed to individuals in books similar to old age pensions books. The task of distributing the vouchers would be comparable to the present task of distributing ration books. To limit fraud the vouchers could be made payable only as if they were crossed cheques, except when paid through a specific post office or bank, which would be expected to know its customers. It is not, however, anticipated that many of the vouchers would be encashed personally by the person to whom they are made payable. Most persons have regular employers, and it is anticipated that these persons would normally deposit their books of vouchers with their employers. Heads of households would normally also deposit the books belonging to those dependent upon them. The employers would collect the

[1] Estimates of National Income and Expenditure, 1938–1944 (Cmd. 6623).

allowances for their employees either through their own banks or from the Inland Revenue, which would also accept vouchers as payment for income tax. In general, therefore, it would usually happen that the allowances would be paid in cash by employers with the employees' earnings, and would tend to be considered as part of earnings.

The additional cost of these allowances would have to be met by additional taxation. The proposal is that income tax would now be payable at a fixed rate in the pound on all income apart from the allowances. This rate would be fixed, as at present, by the Budget; P.A.Y.E. code numbers and tax tables would be abolished. There would be no deductions for insurance stamps and no contributions from employers for them; stamp cards would be abolished.

The standard rate of tax would apply to all earnings, to both total and marginal income. Apart from the basic allowances, there would be no income free of tax, there would be no amount liable to tax at a reduced rate. Everything about the deductions would be simple—they would be understood both by employer and employed person. A knowledge of the firm's total wage bill would immediately enable the tax collector to say how much was due from that firm for its employees.

Let us take the case of some particular employee. Take, for example, a man earning £5 a week. If tax were at the rate of 8*s*. in the pound, he would have £2 deducted as income tax and receive £3 as wages. But, in addition, he would have his basic allowance. Suppose he had a wife dependent but no children. The basic allowance would be £2 a week, and he could obtain it by presenting the vouchers at the appropriate bank or post office, or as crossed cheques by passing them through any banking account. But he would probably find it more convenient, as a regular employee, to deposit both books of vouchers with his employers, who could encash the vouchers as they came due through their bank or use them to make payments to the Inland Revenue. The amounts would be paid out with the man's wages. In this case, therefore, the man would receive from the firm a total of £5 a week, there having been a deduction of £2 from gross wages exactly balanced by £2 basic allowance, so that in effect he had no tax to pay. Had his gross income exceeded £5 he would have had net tax to pay; had it fallen short of £5 his basic allowance would have exceeded the tax.

The following table shows what would happen in other cases where the basic allowance was £100 a year and the rate of tax

8s. in the pound. It has here been considered convenient to express amounts as rates per year. A final column gives for comparison the amount which the man will have to pay in the next financial year (1946–47) under the proposals of the October 1945 Budget, but excludes social insurance contributions. This last column is to indicate that the suggestions made here reproduce substantially the present system of progression of income tax.

Man with Wife Dependent.

Earnings.	Gross tax.	Basic allowance.	Net income.	Net tax.	Income tax, 1946–47.
£	£	£	£	£	£
50	20	100	130	−80	—
100	40	100	160	−60	—
200	80	100	220	−20	—
300	120	100	280	20	19½
500	200	100	400	100	95
1000	400	100	700	300	298
2000	800	100	1300	700	725

A man, married but without children, earning £250 a year would pay no net tax, at £500 he would pay at the average rate of 4s. in the pound and at £1000 at the average rate of 6s.

Under the suggestions made in this paper the net tax for married persons with children and earned incomes would also approximate closely to the Budget proposals for 1946–47, but most single persons would have to pay more, this being primarily due to the personal allowance of £110 for single persons being more than half the £180 allowance for married couples. The following table illustrates the position.

Single Person.

Earnings.	Gross tax.	Basic allowance.	Net income.	Net tax.	Income tax, 1946–47.
£	£	£	£	£	£
50	20	50	80	−30	—
100	40	50	110	−10	—
200	80	50	170	30	13½
300	120	50	230	70	46
500	200	50	350	150	127
1000	400	50	650	350	329
2000	800	50	1250	750	757

In each table the first lines may be taken as illustrating what happens when a man works for only part of the year, so that his basic allowance exceeds the gross amount of tax he has to pay, thus making the net tax negative. For example, the married

man with earnings of only £50 in the year has a net tax which is shown as negative to the extent of £80, which might be compared with a receipt at present of £80 from unemployment insurance.

We next have to make an estimate of how much could be obtained by taxation at, say, 8*s*. in the pound on all income except the basic allowances. The net national income in 1944 was £8,300 million. From this there has to be subtracted the £50 million already accruing to the Government, and there has to be added the National Debt interest of £400 million which is part of private income.[1] It would appear, then, that with unchanged national income the total amount raised should be 40% of £8,650 million, but this would be expecting too much, for it is unlikely that all income could in fact be taxed, such taxation probably being impossible with income in kind. It *might* be possible to collect tax at 8*s*. in the pound on £8,000 million of income, in which case the yield would be £3,200 million.

In the current (1945–46) financial year income tax is expected to yield £1,350 million, but the tax reductions proposed in the October 1945 Budget, and which ought to come into operation in April 1946, are expected to cost £322 million in a full financial year. We might assume a yield of about £1,050 million from income tax in the next financial year with the present method of collection. With the method proposed in this paper another £150 million would be required from income tax to compensate for the loss of employers' and employees' contributions to the contributory insurance schemes, and a further £1,900 million to meet the increased cost of the basic allowances. It would therefore appear that a yield of £3,100 million from the new flat-rate system of income tax should be sufficient. Tax at 8*s*. in the pound on income of £8,000 million would produce £3,200 million. Much seems to depend on being able to maintain taxable income at £8,000 million a year.

It might be objected that it is unreasonable to assume an unchanged money income. Any other assumption, however, would seem equally arbitrary, and in any case we declare our policy to be one of maintaining purchasing power, and purchasing power comes primarily from income. Further, if the number of persons employed is tending to fall, money wage rates are still tending to increase.

In the preceding references to tax attention has been concentrated upon personal earned incomes, though it is intended, as the estimates of revenue to be obtained from a flat-rate tax

[1] Cmd. 6623.

show, that the tax should be paid on all income, including income from investments and the undistributed profits retained by corporate bodies. There seems no reason why, if it is desired, a different rate of tax should not be paid on "unearned" income than is paid on "earned." Thus if the earned income rate was fixed at 8*s*. in the pound the unearned might be fixed at 9*s*.

With the present system of income tax certain additional reliefs are given, such as those in respect of insurance premiums and expenses in connection with one's employment. If it were decided to continue these, it could be done. For insurance, instead of the individual policy-holder claiming, it would seem reasonable, seeing that all persons pay tax at the same rate, for the insurance companies to claim the rebate in a lump sum and reduce premiums accordingly. Expenses in respect of employment are now largely standardised, and the payment might be made by the employer to the worker not as income, but as an expense in the same way that a traveller's expenses are allowed. A flat rate would prevent abuse. The need for allowances for dependent relatives would disappear, as these relatives would have their own basic allowances. It would complicate matters to continue the wife's earned income allowance, whilst to attempt to make people in the highest earned income groups pay at the investment income rate might also be administratively difficult.

There is nothing which would prevent alterations in the standard rate of tax at any time, whilst in the case of basic allowances alterations could be made easily with any new issue of books or vouchers.

The system indicated would simplify not only the collection of taxation from one's major employment, but from other sources as well. In such cases tax could automatically be deducted at the standard rate. This would enable certain evasions to be prevented whenever this secondary source was a recognised employer or institution, for small casual receipts are liable to get missed. For instance, many people have small receipts from savings which evade tax. On the other hand, it would still be impossible to collect tax on casual earnings where payment is made by private individuals, and this kind of earning might increase substantially.

It is possible that in time much of the concept of personal liability to income tax would disappear. Even at present many workers think rather in terms of what is in their pay packet than what their gross earnings are. It seems possible that under

this scheme individual assessments for income tax would no longer be required, and that would be a great saving of manpower. What would happen would be that firms would have to pay to the Inland Revenue a certain proportion of their wages bill, of their profits and of any other payments that directly become income to others. In other words, tax would be payable at a fixed rate on the firm's net output, suitably defined by excluding depreciation. But still everyone would be concerned with the rate of income tax, for a change in tax from, say, 8*s.* to 7*s.* in the pound would be comparable to an edict raising incomes by 8%.

A simplified system of taxation of this kind would enable the Ministry of Labour to concentrate on employment rather than on unemployment benefit, for the health service to be more concerned with health and less on payments to the unhealthy, whilst the pensions organisation would have very much less to do. It would still be necessary to maintain the system for the assessment and collection of surtax, but there are only 125,000 surtax payers, compared with some 10 million who after March 1946 will pay income tax. It will still be necessary to maintain an organisation for assessing producers, including all those persons who work on their own account, but it will be to measure their net output rather than their profits. In other words, we should have as a by-product a measure of the national income and much of the information required for an annual census of production.

If at one end of the income scale the present system of surtax would have to be maintained, so at the lower end some system such as that of the Assistance Board or Poor Relief would still be required for those cases where peculiar circumstances prevent treatment by a standard and simple formula. But the work of this organisation should be greatly reduced.

Between the two extremes of surtax payer and the person in need of special assistance there could be enormous simplification of income-tax assessment and collection for both the Inland Revenue and employers. There would be a similar simplification in the payment of cash social benefits by the State.

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THE ECONOMIC POSITION OF THE DOMESDAY *VILLANI*

In the account of the Domesday Inquest written by Robert, Bishop of Hereford, in the very year that the survey was made, there is a fairly definite reference to two methods of classifying the English peasantry. The *descriptio* of England, we are told, included not only the possessions of the great, but also the *homines*, both serfs and free men, and as well those merely dwelling in cottages (*tuguria*) as those possessing homes and lands.[1] Bishop Robert was a learned man, and it is probable that he was present at the council which in the winter of 1085–6 discussed the problems of the projected inquiry; but one may perhaps doubt whether he fully understood that to classify men according to their legal status is not the same thing as to classify them according to their economic condition. And certainly the two methods are employed somewhat indiscriminately in Domesday Book.

Hitherto Domesday students have concerned themselves rather with legal than with strictly economic matters. More attention has been given to the problem of determining which classes were "free," and what degree of freedom they enjoyed, than to that of estimating the size of their holdings. That a juristic bias adversely affected the perspectives of the older economic historians on the Continent has been strongly asserted by Sombart and, with qualifications, by Dopsch.[2] And though in England there has been perhaps less of this onesidedness, the same tendency has been operative here at least in the mediaeval field. Maitland and Vinogradoff, manysided as they were, were both professors of law.

That no serious attempt has previously been made to construct

[1] *Hic est annus XX^mus Willelmi, regis Anglorum, quo jubente hoc anno totius Angliae facta est descriptio in agris singularum provinciarum, in possessionibus singulorum procerum, in agris eorum, in mansionibus, in hominibus tam servis quam liberis, tam in tuguria tantum habitantibus, quam in domos et agros possidentibus, in carrucis, in equis et caeteris animalibus, in servitio et censu totius terrae omnium :* Stubbs, *Select Charters*, 9th edition, p. 95.

[2] W. Sombart, *Der moderne Kapitalismus*, Vol. I, part i (edition of 1928), pp. 23, 314; cp. his article in the *Economic History Review*, Vol. II (1929), pp. 5–7; A. Dopsch, *Verfassungs- und Wirtshaftsgeschichte des Mittelalters* (1928), pp. 357, 550 (in articles published originally in 1918 and 1927). Sombart includes Cunningham and Ashley among those against whom he brings this criticism. Dopsch is much more ready to recognise the immense debt which economic history owes to legal historians, and, in particular, has, in spite of their differences, stressed the great range and fine balance of Vinogradoff, *Vierteljahrschrift für Sozial- und Wirtschaftsgeschichte*, Vol. XXIII (1930), pp. 115–16.

a comprehensive statistical picture of the holdings of the English peasants in 1086 is no doubt partly due to the fact that Domesday Book tells us very little directly about the amount of land which the various classes possessed. Apart from statements about the holdings of sokemen and *liberi homines*, which are fairly frequent in some of the eastern counties, it is only in Middlesex and part of Cambridgeshire that we find more than mere scraps of information on these matters. And though for these two districts the data are, by way of exception, fairly full and precise, we cannot be sure that the hides, virgates and acres that are here assigned to the peasantry were in fact measurements or even estimates of real areas and not fiscal assessments which bore no uniform relation to agrarian realities.[1]

There is, however, another series of statements in Domesday Book which provide much more fruitful material; and it is rather surprising that this material has been so little utilised for statistical purposes. I refer to the clause relating to the tenants' plough-teams. That the number of ploughing oxen which a man possessed must have borne a close relation to the extent of his arable land is obvious; and except in districts especially devoted to sheep-farming, or pig-breeding, or to some economic activity that lay outside the normal types of agrarian economy, it is justifiable to regard the size of the arable holding as a rough index of the peasant's prosperity.[2] It is true that in its most usual form the clause which tells us the number of the *carucæ hominum* is baffling. One cannot make much of a statement that x *villani* and y *bordarii* have n teams, for it is impossible to tell how the plough-beasts were distributed between the two classes. There is evidence that bordars sometimes did and sometimes did not possess teams.[3] Yet there remain a very large number of cases which

[1] Both Maitland and Vinogradoff inclined to the view that the Middlesex particulars do refer to actual field holdings. For their discussion of the problems these figures present see Maitland, *Domesday Book and Beyond* (1907 edition), pp. 477–8; Vinogradoff, *English Society in the Eleventh Century* (1908), pp. 167–76.

[2] The danger of using this criterion in sheep-farming districts has been emphasised by Eileen Power, and is well illustrated by the case of Swynçombe in Oxfordshire (as described in the Hundred Rolls), which she cites: Eileen Power, *The Wool Trade in English Medieval History* (1941), pp. 29–30.

[3] For example, at Sutton in Bedfordshire, on the land which Turbert held of the Countess Judith, there was one plough on demesne *et iiij bordarii cum j caruca* (f. 217b), while an entry on the preceding folio tells us that at Easton in the same county six *villani* have three ploughs, and adds *Ibi xij bordarii et ij servi* (f. 216)—an entry which seems almost to imply, not only that the bordars had no ploughs, but that this was to be expected, and which may therefore be contrasted with such an entry as that at Mileford in Yorkshire: *Ibi iiij villani et v bordarii sed non arant* (f. 315b). It is tempting to regard the ploughs as

give the details about the ploughs for the members of one class only. And it is the object of this paper to present the evidence that is provided by such cases in regard to the *Villani*, who form the most numerous class in the Domesday enumeration both in the country as a whole and in twenty-five of the thirty-four Domesday shires taken separately.[1]

The statistical results of my investigations are summarised in the three Tables printed below (pp. 262–4). But before I consider the implications of these figures, something must be said about their basis and limitations. To go through Domesday Book (which in the printed edition comprises nearly 2000 folio columns) and to pick out from its pages more than 1500 statements relating to over 10,000 individuals is, even with the help of the Victoria County History translations, which I used for some counties, a laborious and protracted task. Those who have done most work upon Domesday Book will readily appreciate the fact that I cannot claim either absolute completeness or absolute exactness for my figures. Each case has been carefully checked; but in a compilation of this kind it is very easy to overlook a few entries which should have been included. I have endeavoured to exclude every statement whose interpretation was in any degree doubtful. But even here, since the work of extracting the figures had to be spread over many weeks, it is possible that I have not been perfectly consistent and that a mood of enhanced scepticism may now and again have led me to reject an entry of a form which at another time I may have judged to be acceptable. [2] Yet these

belonging solely to the *villani* in cases where, although the *villani* and *bordarii* are linked together, the number of the ploughs is either equal to the number of the *villani* or is some simple fraction of that number, and has no such simple relation to the number of the *bordarii*. There are, for example, numerous cases of this kind in Sussex. Thus at Bishopstone *xxx villani cum ix bordariis habent xxx carucas* (f. 16b), and at South Malling *cc et xix villani cum xxxv bordariis habent lxxiij carucas* (f. 16). But I have excluded all such cases from my figures as too conjectural. Here and elsewhere in this article the references are to the first volume of Domesday Book unless the contrary is stated.

[1] These statements are based on Ellis's figures. Corrected totals are available for some counties, but those of Ellis are accurate enough for the purpose for which they are used above. In reckoning the Domesday shires as thirty-four in number, I have followed Ellis, who includes the district "between Ribble and Mersey" in Cheshire and does not separate from Yorkshire those portions of the north-western counties that are dealt with in connection with Yorkshire in Domesday Book.

[2] The facts about the plough-teams are stated in Domesday in a great variety of ways. I have excluded cases where the formula is, "There is land for x teams which are there with y *villani*," for one cannot rule out the possibility that some or all of the teams may in such cases have belonged to a demesne which is not specifically mentioned; but the entry for *Aisse* in Devon (*Terra est iij carucis Has habent ibi vj villani cum i servo*, f. 100b) was judged

admissions are not so damaging as perhaps they may seem at first sight, at least to those unfamiliar with the problems and difficulties of Domesday study. The figures, it must be remembered, constitute a sample of the whole class of *Villani*; and if I have omitted any cases that I ought to have included, that will only mean that the sample is not quite so large as it might have been. If I have included any cases which a reconsideration would lead me to exclude as doubtful, they cannot be more than a negligibly small proportion of the total number. In general I am satisfied that my figures are trustworthy as a basis for such broad and general conclusions as alone can legitimately be drawn from statistics of this kind.

Three districts that come within the scope of Domesday Book do not appear in the Tables. The brief and summary entries which are all that Domesday devotes to the land "between the Ribble and the Mersey" proved useless for my purposes: a statement that at Salford there were two *villani* with one plough is, I think, the only one that tells of ploughs held by villeins only in this district. It also seemed necessary to exclude Cornwall and Middlesex. In Cornwall I found only two entries that seemed to isolate the teams of the *villani*, and in both the interpretation of the entry is rather doubtful.[1] In Middlesex

admissible As the possession of plough-beasts by *servi* seems very improbable, I have included the numerous cases where the formula is of the kind we find at Wilderley in Shropshire (*Terra est iiij carucis In dominio est una et iiij servi et iij villani cum j caruca*, f 258b). That the *servi* here belonged to the demesne and that the oxen (other than those allocated to the demesne) all belonged to the *villani* may safely be assumed: if the *servi* and *villani* were meant to be linked together we should expect the *servi* to be mentioned last; and, further, the *servi* we meet with in entries of this type are often just twice as numerous as the demesne ploughs, which makes it very probable that they were demesne ploughmen (see for example Oakley, Northants, f. 228b, and Empingham, Rutland, f. 227b). On the other hand, I felt it safer not to include an entry which runs *Ibi v villani et iiij servi habent v carucas* (*Brotone*, Devon, f. 105), but I have included the entry *Ibi iiij villani cum i servo habent i carucam* (*Torneberie*, Devon, f. 105b). Among Yorkshire cases I rejected the figures for *Chileburne* (*Hugo habet ibi i villanum et ij carucas*, f. 327) but accepted those for *Tresch* (*Hugo habet ibi x villanos habentes ij carucas*, f. 327). Perhaps these examples will suffice to illustrate the types of problem that one meets and the way I have tried to deal with them. It is in regard to marginal cases that I may not always have been consistent. My aim has been to exclude all material that I judged to be doubtful.

[1] At Bodmin (f. 120b) the statement runs *Ibi v villani habent ij carucas cum ij bordariis*; and though it appears probable that the plough-teams belonged to the *villani*, the possibility that they were distributed among the two classes cannot be excluded, especially as bordars possessing plough-beasts are found in Cornwall at *Aissetone* (f. 122) and at *Pangrol* (f. 125). The other entry relates to *Winetone* (f. 120): we are told that the *villani* have twenty-four ploughs and and that there are twenty-four *villani*, forty-one *coliberti*, thirty-three *bordarii*

there are only three or four unexceptionable entries that might have been used for my tables without more ado, for though we are frequently told in the Middlesex Domesday that the *villani* have so many teams, it appears probable that the term is employed in this clause in a broad generic sense, just as it seems to be in the similar clause found in the Exon. Domesday, and thus included bordars, and perhaps also cottars, as well as villeins in the specific sense.[1] On Ranulf Flambard's land at Stepney there were, we are told, three teams "of the *villani*," yet the only peasants mentioned are fourteen bordars.[2] Again, for Hampstead, for Charlton, and for the land of Robert son of Rozelin at Stepney, the plural *villani* is employed in the clause about the tenants' teams (and in the case of Hampstead is coupled with a verb in the plural), although in each of these entries the enumerated tenants only included a single *villanus* along with the bordars and other classes.[3] No doubt a critical sifting of the Middlesex data would yield some trustworthy figures, for on some manors

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and fourteen *servi*. But here the Exchequer text follows the formula of the Exon Domesday, which, though it appears to isolate the teams of the *villani*, and so to promise information which is not otherwise available for Cornwall, cannot really be utilised for this purpose, because, as Maitland pointed out (*op. cit.*, p. 39), there is reason to think that in the statement about the ploughs Exon uses the term *villani* in a general sense which includes the bordars: we may be told that the *villani* have half a team and then find that the enumerated population consists of two *bordarii* and six *servi* (*Lanner* Cornwall, in Exon, ed. Ellis, p. 215, cp. *Cariorgel*, p. 203, *Talgollo*, p. 204, and other instances too numerous to be explained away as due to the omission of *villani* from the enumeration by scribal error) There are a good many examples in Cornwall of those arithmetical correspondences which tempt the incautious to conclude that all the teams belonged to the *villani*—*e g*, St. Germans (f 120b), where there were twenty-four villeins and twenty bordars with twenty four teams, or *Cargav* (f. 121), where there were twelve villeins and twenty-two bordars with six teams But similar correspondences occur between the teams and the bordars, and between the teams and the villeins and bordars combined—*e g.*, *Lanherwev* (f. 120b), where there were eight *villani* and six bordars with three teams, or Pennehe (f. 120), where there were twenty-four villeins and sixteen bordars with twenty teams. The danger of arguing from "round totals and neat quotients" is well illustrated by the case of Harpswell in Lincolnshire cited by Professor Stenton (Foster and Longley, *The Lincolnshire Domesday*, Lincoln Record Soc., 1924, Introduction, p. xx). If we combine the three entries in Domesday which relate to Harpswell, we get a total of eleven sokemen and fourteen villeins with fifty oxen, or exactly a pair of oxen each. But in fact there were six sokemen with two and a half teams or twenty oxen, five sokemen and one villein with six oxen, and thirteen villeins with three teams or twenty-four oxen.

[1] For the use of the term *villani* in Exon. see the preceding note. As the Middlesex formula resembles that of Exon., it is perhaps significant that in Domesday Book Middlesex immediately follows the south-western counties that are comprised in the Exeter text.

[2] f. 127b.

[3] ff. 128, 130b.

the enumerated peasants consisted entirely of villeins, but as we have much fuller evidence for this county in the direct statements about the villeins' holdings, I have not made the detailed scrutiny that would be required for the extraction of such figures.[1]

In spite of the exclusion of the three districts just mentioned and a ruthless rejection of doubtful entries, we are left with data relating to 10,733 *villani*. That is very nearly 10% of the total number of *villani* enumerated in Domesday as summed by Ellis, and over 10% of the total exclusive of Cornwall and Middlesex. The sample is, however, very unevenly distributed between the various counties. In Bedfordshire it amounts to over 67%, in Wiltshire to little more than half of 1%. Yet we have a sample exceeding 5% for each of twenty-two counties, and one exceeding 10% for Yorkshire. Cheshire, Derbyshire, Lincolnshire, Shropshire, Gloucestershire, Huntingdonshire, Cambridgeshire, Bedfordshire, Hertfordshire, and Sussex.[2]

[1] A number of Bedfordshire entries are of the Middlesex type: the enumeration of the various classes is preceded by a statement that "the *villani*" have so many teams. In two of these cases (Wilden, f. 209b, and Dean, f. 210) the enumeration does not include any *villani* in the specific sense. I have not used any figures from such entries. I have, however, included the very numerous Bedfordshire cases where we read, not that "the *villani*" possessed so many teams, but that "x *villani* have y teams" and then that there are so many bordars and serfs. Even here the question arose whether the term *villani* includes the other classes, for not infrequently the number of the *villani* is either equal to the number of bordars or equal to the number of bordars and serfs added together. Thus of Wilshamstead we read: *Ibi xj villani habent iiij carucas et xj bordarii et j servus* (f. 217), while at Lidlington (f. 211) the entry runs: *xxiij villani habent viij carucas. Ibi xvj bordarii et vij servi* (cp. Wyboston, f. 212; Clopthill, f. 214; Henlow, f. 215b; Putnoe, f. 212b; Bletsoe, f. 217). In spite of such disturbing coincidences, the figures from these entries must, I think, be accepted at their face value, for the following reasons: (1) The formula is often used where the *villani* outnumbered all the other classes (*e.g.*, Cranfield, Barton-in-the-Clay and Pegsdon, f. 210b). (2) It is often used where the *villani* were fewer than the bordars (*e.g.*, Podington, f. 216; Easton, f. 216; Felmersham, f. 217), and it occurs at Streatley (f. 212), where they were fewer than either the bordars or the serfs. (3) Similar coincidences between the numbers of the *villani* and the numbers of other classes occur in entries whose phraseology clearly implies the distinctness of the former (*e.g.*, Houghton, f. 213: *et viij villani et vj bordarii et ij servi*; Langford, f. 215b: *Ibi xij villani vij bordarii v servi*; Henlow, f. 218: *Duo villani et ij bordarii et ij servi*). (4) Correspondences of this kind might arise through each villein having a bordar or a serf to work for him. (5) The assumption that the team-owning *villani* were the same persons as the bordars and serfs whose numbers are the same would lead to some highly improbable results: at Clopthill it would mean that five bordars had six full plough-teams between them.

[2] The counties are those districts which are included under the respective county headings in Domesday Book, so that Cheshire includes the land between Mersey and Ribble, and Yorkshire includes some fragments of the north-western shires. In a very few cases, guided by the editors of Domesday in the Victoria

It is essential to remember that the basis of the figures is a series of statements which, in one way or another, tell us that x *villani* have y teams.[1] Except in the comparatively few cases in which the statement refers to a single isolated *villanus*, the data cannot be made to yield any precise information as to the possessions of individuals.[2] We know, for example, that in Yorkshire 842 villeins belonged to groups whose numbers had on an average between a quarter of a team and half a team each, while 139 belonged to groups averaging exactly half a team per villein. But we do not know how many individuals possessed more or less than the average of their group. On the other hand, it is important to recognise that the figures are in fact much more informing than they would be if they merely meant that 842 or 139 villeins, as the case may be, averaged so many oxen apiece. Two facts justify the conclusion that the number of plough-beasts possessed by most of the *villani* did not vary very widely from the average number of the class to which they are assigned in the tables.

In the first place, most of the groups to which the basic statements relate are quite small groups. The largest of all occurs at *Rameslie*, in Sussex, where ninety-nine villeins had forty-three teams, and the next largest is at Ferle, in the same county, where there were eighty villeins with thirty-four teams.[3] But, besides these, there are, among the groups used for these tables, only four in the whole country that contain as many as fifty villeins, two of these being in Yorkshire, one in Somerset, and one in Devon. And though Yorkshire can show twelve groups of more than twenty, Bedfordshire nine such groups and Kent and Huntingdonshire six each, eleven of the counties that figure in the Tables have no group exceeding twenty and six others have only

County Histories, I have transferred figures entered in Domesday under one county to the county to which they properly belong, but such transfers have been too few and small to affect the statements in the text.

[1] Where the Domesday statements are made in terms of oxen I have reckoned eight oxen to the team. As I have recently shown (*English Historical Review*, Vol. LX, 1945, pp. 217–33), the Domesday *caruca* was not invariably one of eight oxen in the south-western counties. But any error that this may involve in my figures must be quite negligible. It was only, I think, in 128 entries (out of more than 1500) that the need of converting oxen into teams arose at all, and eighty-six of these cases belong to Lincolnshire, a county in which there is pretty conclusive evidence that eight oxen were invariably reckoned to the team (see particularly Grimsby, etc., f. 343, and Bicker, f. 348b). From those south-western counties in which the *caruca* was variable we have only two entries in which it was necessary to convert oxen into teams: they concern six *villani* in Devon out of a total of 512 for that county.

[2] The entries relating to individual villeins number about 160.

[3] ff. 17, 21.

one. For the country as a whole the average size of the basic group is seven.

Secondly we have to reckon with the familiar fact that the villeins of a mediæval English village or manor usually fall into a few classes marked by uniform or nearly uniform holdings within each class. Domesday itself reveals this type of agrarian structure in the few districts for which it supplies information about the villeins' land. Every column of the section devoted to Middlesex contains evidence of this kind of thing, for even if the hides, virgates and half-virgates ascribed to the *villani* of this county were fiscal assessments rather than actual areas of land, their uniformities must reflect corresponding uniformities in the agrarian conditions.[1] The Middlesex manors usually contained two or three classes of *villani*. Thus on the Bishop of London's manor at Fulham there were five villeins with one hide each, thirteen who held a virgate each, and thirty-four who had each half a virgate.[2] But in a few places all the villeins had equal holdings. At Cranford there were eight *villani*, and each of them possessed a virgate.[3] At Lisson (*Lilestone*) each of the four *villani* is credited with half a virgate.[4] And when we turn to the Isle of Ely we find that here complete equality of villein holdings within the same manor or "berewick" seems to be the rule rather than the exception. Domesday Book reveals such equality at ten places in this area, and the additional detail provided by the Ely Inquest enables us to add five more estates to the list, while it is only on three manors that the villein holdings fall into two groups.[5] So far as I know, Middlesex and the Isle of Ely are the only districts for which Domesday provides us with any considerable body of information of this kind. But there is no reason to

[1] I mean within the same manor. As between one manor and another it may well be (as stated above on page 245) that the assessments, if assessments they be, "bore no uniform relation to agrarian realities" for beneficial hidation was often a privilege of particular estates: see Vinogradoff, *op. cit.*, pp. 177 *et seq.*

[2] f. 127b.

[3] f. 130b.

[4] f. 130b.

[5] ff. 191b, 192, 192b; *Ely Inquest* in N. E. A. S. Hamilton, *Inquisitio Comitatus Cantabrigiensis* (1876), pp. 115–20. At Witcham the Ely Inquest says there were two villeins with fifteen acres each and a third with ten acres, while Domesday speaks of two villeins only and gives them each ten acres. If we regard the former as the correct reading, that would give us fourteen manors or "berewicks" with equal villein holdings and four where they form two groups. I have not counted Chatteris, where the Ely text seems to be corrupt, and Domesday does not give the particulars. At Whittlesey all the villeins had eight-acre holdings on the manor of the Abbot of Thorney, twelve-acre holdings on the manor of the Abbot of Ely: Dd. f. 192b, *Ely Inq.*, p. 115.

suppose that conditions in these regions were in this matter at all unusual. At Sawbridgeworth in Hertfordshire an exceptionally detailed entry in Domesday gives us a glimpse of the same kind of thing—fourteen *villani* with a virgate each, and thirty-five each of whom had half a virgate.[1] On three other Hertfordshire manors the Ely Inquest supplies particulars which show that at Hatfield all the villeins had equal holdings, and that at Hadham and Kelshall (*Chyllessella*) they formed two groups.[2] In a part of Cambridgeshire remote from the Isle of Ely, the *Inquisitio Comitatus Cantabrigiensis* gives some details that Domesday Book denies us about the manor of Count Eustace at Ickleton: we learn that of thirty *villani* eleven had half a hide each, while one held a whole hide and one a virgate.[3] In the west of England a reflection of similar conditions may be seen in the occasional references to *integri villani* and *dimidii villani* that occur in the Gloucestershire and Shropshire sections of Domesday Book.[4] But there is no need to labour the point, for the tendency of villein holdings to consist of standard shares or fractions of shares is a commonplace of knowledge, and its prevalence is far more likely to be exaggerated than contested.

The Tables printed below give in detail the figures I have obtained by my investigations. But the general conclusions to which they point can best be appreciated if the classification is simplified so as to bring out the main facts, first for the country as a whole, and secondly in so far as they relate to regional differences.

I. In a general view perhaps the most important fact which emerges is the large number of *villani* who must have had more than the pair of oxen commonly associated with a virgate of land. The average for the whole area of thirty-two counties is well above a quarter of a team per villein—2·9 oxen, in fact, if we reckon eight oxen to the team. In thirteen counties the average is three oxen or more; in Herefordshire, Gloucestershire and Sussex it exceeds half a team. If we arrange the figures, as in Tables II

[1] f. 139b.

[2] *Ely Inquest* in Hamilton, *op. cit.*, pp. 124–5, *cp.* Seebohm, *English Village Community*, p. 94, where these cases are cited. Hadham is a place that supplies figures for my tables. Domesday says there were fifteen *villani* there who had eight teams and they are included in the tables among those averaging between half a team and a whole team. But the Ely Inquest shows that one of them had land rated at a virgate while each of the others had land rated at half a virgate, so that probably in fact fourteen had half a team each and one a whole team.

[3] *I.C.C.*, p. 41.

[4] See the examples cited by Vinogradoff, *op. cit.*, p. 448.

and III, according to the averages of the groups to which the basic statements refer, we get similar results. Almost 63% of the total number of *villani* whose teams are separately stated belonged to groups averaging more than a quarter of a plough-team per villein; and 23·9% had on an average half a team or more. These figures suggest that generally accepted views about the holdings of the eleventh-century villeins need considerable modification. They do not necessarily mean that we must cease to think of the virgate as the normal villein holding. Virgate holdings may well have been more numerous than holdings of any other one size. The Tables themselves show that there were more *villani* in groups averaging exactly a quarter of a team per villein than in those averaging half a team, or a whole team or an eighth of a team. There can be little doubt moreover that many of the individuals in other classes actually possessed just two oxen. Yet though all this may be admitted, the figures point unmistakably to conditions materially different from those commonly believed to have prevailed. They appear incompatible with such a predominance of virgate and half-virgate holdings as is often taken for granted.[1] The number of *villani* averaging half a plough-team each is more than double those averaging just one-eighth of a team; if we add to it those averaging a team apiece, the total exceeds that of those averaging just a quarter-team by some 13%.

The actual possessions of individuals cannot, of course, be discerned through this mist of averages. But a gleam of reflected light can be thrown into the obscurity if we make a statistical experiment with the data which Domesday supplies for the county of Middlesex, comparing the individual villein holdings of Middlesex with the averages to which we should be confined if these particulars had been denied us, and comparing these averages with those of our statistics for the rest of the country. For the purposes of this experiment it does not really matter whether the

[1] Seebohm not only maintains that the virgate was the normal holding of the Domesday villein, but says, "The number of *villani* holding half-virgates was probably greater than the number holding half-hides and hides; so that the average holding would perhaps hardly be equal in acreage to the normal holding of 30 acres" (*op. cit.*, p. 102). Maitland, though recognising the heterogeneity of the villein class, says, "Perhaps in general we may endow the *villanus* of Domesday Book with a virgate" (*op. cit.*, p. 40). Ashley, in the course of an attempt to "picture to ourselves an eleventh-century manor in Middle or Southern England," says, "Of the land held in villenage, far the greater part was held in *whole* or *half virgates* or *yardlands*" (*An Introduction to English Economic History and Theory*, Part I, vol. 1, edition of 1906, p. 7). Vinogradoff's view was better balanced (*op. cit.*, pp. 447–8).

hides and virgates and their fractions of which we read in the Middlesex section of Domesday were actual areas or fiscal assessments.

In Middlesex Domesday is generously informing. Even when we confine ourselves to entries that are quite free from ambiguity and show no sign of corruption in the text, we are left with particulars about the holdings of 454 individual *villani*, or nearly 40% of the total number of *villani* in the county. And we find that, of these 454 holdings, nine were whole hides, thirty half-hides, 216 virgates, and 196 half-virgates, while there was one holding of fourteen acres, one of twelve acres and one of eight acres. Thus the Middlesex distribution conforms to the traditional view in that it shows a great preponderance of virgate and half-virgate holdings. But let us suppose that Domesday had only given the total areas held by the *villani* in each manor, telling us no more about these hides and virgates than it tells us about the teams in the statements that are the basis of our statistics for other counties. In the first place we then get for Middlesex an average of less than a virgate per villein—1·8 half-virgates or oxgangs in fact, as compared with our average of 2·9 oxen for the other thirty-two counties. That is in itself significant. But, secondly, let us arrange the Middlesex totals in a scheme of averages precisely parallel to that of Tables II and III, treating hides as we have treated teams, and virgates as we have treated quarter-teams. The results work out thus :—

	Average of 1 hide or more.	Average between $\frac{1}{2}$ hide and 1 hide.	Average of just $\frac{1}{2}$ hide.	Average between $\frac{1}{4}$ and $\frac{1}{2}$ hide.	Average of just $\frac{1}{4}$ hide or virgate.	Average between $\frac{1}{8}$ and $\frac{1}{4}$ hide.	Average of just $\frac{1}{8}$ hide or $\frac{1}{2}$ virgate.	Average of under $\frac{1}{8}$ hide.
Number of *villani* .	None	None	3	109	38	289	12	3
Number of *villani* expressed as a percentage of the total of 454 .	Nil	Nil	0·7	24·0	8·4	63·7	2·6	0·7

Two things seem notable about these figures. First, a comparison of the averages with the actual distribution of holdings in Middlesex shows that the averages tend to obscure both the larger holdings and the half-virgate holdings. The number of holdings averaging exactly a virgate each is more than twelve times the number averaging half a hide or more, and more than

three times the number averaging just half a virgate. In fact, the virgate holdings were less than six times as numerous as those of half a hide or more, and they exceeded the half-virgate holdings by less than 11%. Secondly, the pattern of the Middlesex averages is very different from that of the Tables for the combined other counties. In Middlesex nearly 75% of the *villani* fall into one or other of the three groups averaging respectively a virgate, a half-virgate and something between the two: in the Tables less than 32% are to be found in the corresponding groups of teams. Further, as against 63% averaging more than a quarter of a team and 23·9% averaging half a team or more in the Tables, the Middlesex figures show only 24·7% averaging more than a virgate and only 0·7% averaging half a hide or more. Thus our experiment supports the conclusion that the team statistics imply conditions not a little different from those which are usually supposed to have existed and that villein holdings of two virgates or more were pretty common in England in 1086. Even in Middlesex hide and half-hide holdings actually amounted to more than 8½% of the total number of villein holdings for which evidence is forthcoming, and, if we take the Middlesex figures to be areal measurements, occupied some 23% of the total amount of land that the *villani* held; and everything goes to show that in the country as a whole there was no overwhelming preponderance of virgate and half-virgate holdings such as ostensibly obtained in Middlesex, but a proportion of larger holdings considerably greater than the proportion indicated by the figures for that county.[1]

II. The differences between county and county are surprisingly large. Among those counties for which we have a sample exceeding 5% several show figures that diverge widely from those for the country as a whole. The most striking cases are set forth in the following table, which shows the numbers of *villani* averaging over a quarter of a team and under a quarter of a team respectively, expressed as percentages of the total number of *villani* for whom we have information in each county, and also the average numbers

[1] Of course if the Middlesex figures were assessments and not areas the agrarian realities in Middlesex may have approximated to the average of the thirty-two other counties. My argument is simply that the team statistics for the combined thirty-two counties cannot be reconciled with a pattern of holdings such as the Middlesex figures, if interpreted as actual areas, would prove to have obtained in that county. Either villein holdings were on an average larger in the country as a whole than they were in Middlesex, or the actual holdings in Middlesex ran larger than is suggested by the statements about the villeins' hides and virgates in the Middlesex section of Domesday.

of oxen per villein, or, to speak more exactly, the figures we obtain by multiplying the number of teams specifically assigned to *villani* by eight and dividing the result by the numbers of villeins to whom they are thus assigned.[1]

County.	Number of oxen per villein.	Percentage of *villani* averaging more than ¼ team.	Percentage of *villani* averaging less than ¼ team.
Herefordshire	4·8	96·7	Nil
Gloucestershire	4·7	98·3	0·7
Sussex	4·1	89·9	3·7
Bedfordshire	3·7	88·3	4·2
Hertfordshire	3·3	85·6	5·6
Huntingdonshire	3·1	78·6	15·8
Hampshire	2·8	77·4	13·8
Norfolk	1·0	2·5	96·9
Lincolnshire	1·5	14·7	73·4
Kent	1·8	37·3	55·0
All 32 Counties	2·9	63·0	27·6

It adds further point to the sharpest contrasts revealed in the above table to note that in Bedfordshire 36%, in Sussex 42½%, in Gloucestershire over 60% and in Herefordshire nearly 75% of the *villani* in question belonged to groups averaging half a team or more, as compared with 0·6% in Norfolk, 2·2% in Lincolnshire and 2·4% in Kent, while of the four former counties the only one with any villeins averaging an eighth of a team or less is Sussex, which has 1·4% in that position, as against Norfolk with 55%, Lincoln with 41% and Kent with 24½%.

These contrasts cannot, I think, be explained away as due to any insufficiency of the samples. The smallest sample (that for Norfolk) is nearly 7½%; and for Lincolnshire, which stands out in contrast to the first seven counties only less sharply than Norfolk does, we have a sample of 12%, while the counties with abnormally well-equipped *villani* include Bedfordshire, where the sample exceeds 67%.

Another possible objection requires more consideration. The counties that show these marked divergencies tend to fall into geographical groups. There are three groups of counties where the evidence points to large villein holdings—a western group comprising Herefordshire and Gloucestershire; an east Midland group consisting of Bedfordshire and its two neighbours, Huntingdonshire and Hertfordshire; and a southern group formed by Sussex and Hampshire.[2] On the other hand, the pre-

[1] See explanatory note to Table I, p. 262.

[2] Worcestershire should almost certainly be included with the western group, for the seventy Worcestershire *villani* of whom we have information averaged 3·7 oxen apiece, and none of them belonged to groups averaging a

dominance of small holdings is most marked in the contiguous counties of Lincoln and Norfolk.[1] But the obvious inference that this reflects regional differences in economic conditions must not be accepted too readily. The question arises whether the contrasts may represent, not real differences in agrarian organisation, but differences in the phraseology employed by different bodies of Domesday Commissioners. If the Commissioners who conducted the Domesday Inquest differed in the sense in which they used the term *villanus*, so that the term was in certain groups of counties applied to classes of the peasantry who were not described as *villani* in the counties belonging to other circuits, that might go far to explain the statistical differences. A suspicion that this may be the explanation of the puzzle is aroused by the fact that Eyton, who attempted to map out the various circuits according to differences in the Domesday phraseology, considered that Gloucestershire, Worcestershire and Herefordshire formed a single circuit, and those three counties (if we accept the evidence of a 4½% sample for Worcestershire) constitute a very distinct group in the team statistics. Apart from this, however, neither Eyton's scheme, nor Ballard's suggested emendation of it, seems to support our sceptical hypothesis. Both those scholars reckoned Norfolk, Suffolk and Essex to be a distinct circuit, and the fact that these three counties, and these three only, are included in the Little Domesday makes this conclusion almost certain. But, then, Lincolnshire must have belonged to another circuit; and in the matter of team statistics Norfolk and Lincolnshire are very similar. Again, both Eyton and Ballard regard Huntingdonshire and Lincolnshire, which are statistically contrasted, as belonging to the same circuit, while another of their circuits combines Kent with Sussex and Hampshire. And though Ballard, unlike Eyton, would assign Hertfordshire to the same circuit as Bedfordshire, both dissociate these from the county of Huntingdon.[2]

quarter of a team or less. I have not, however, included Worcestershire in the table because the sample is under 5%. The propriety of reckoning Hampshire as forming a group along with Sussex is perhaps questionable, for though Hampshire has a high percentage of villeins belonging to groups averaging more than a quarter-team per villein, the average number of oxen per villein in this county is almost the same as that for the country as a whole.

[1] Rutland resembles its great neighbour Lincolnshire: forty-three out of fifty-eight *villani* in Rutland averaged less than a quarter of a team each. If we take the hides, virgates, etc., assigned to *villani* in Middlesex to be real areas, we may regard Middlesex as forming along with Kent a south-eastern group marked by comparatively small villein holdings: the Middlesex average of 1·8 half-virgates per villein corresponds exactly to the Kentish average of 1·8 oxen.

[2] An account of the conjectured circuits will be found in A. Ballard, *The Domesday Inquest*, 1906, pp. 12–13.

The demon of terminological inconsistency cannot, however, be exorcised thus easily, for we know too little about the circuits of the Commissioners and the methods they employed to argue confidently from theories about them. We must apply the test of evidence that bears specifically upon our problem.

Two questions seem to require an answer. Can the apparent prevalence of very small villein holdings in, say, Lincolnshire and Norfolk be due to the inclusion within the class of *villani* of persons similar to those described elsewhere as bordars or cottars? Secondly, can the figures indicating large holdings in such counties as Gloucestershire, Herefordshire, Sussex and Bedfordshire be the result of a terminology which classed as *villani* peasants whose economic counterparts were called sokemen or *liberi homines* in Norfolk and Lincolnshire? If the evidence suggests that either or both of these questions should be answered affirmatively, scepticism about the economic significance of the statistical contrast may be justified.

The first question is readily disposed of. According to Ellis's enumeration of the different classes of the Domesday population, the ratio of bordars to *villani* in Lincolnshire exceeded that found in Gloucestershire, and though the relative number of bordars was greater in Herefordshire and Bedfordshire than in Lincolnshire, neither of those counties can show a proportion of bordars approaching that found in Norfolk, where they were more than twice as numerous as the *villani*. There were, according to Ellis, no cottars in Gloucestershire or Bedfordshire and only nineteen in Herefordshire, while in Sussex, where they were numerous, the ratio of bordars and cottars combined to the *villani* does not greatly exceed the ratio of bordars to *villani* in Lincolnshire and is enormously less than that ratio in Norfolk. It follows that the hypothesis of "concealed bordars or cottars" cannot discredit the agrarian contrast suggested by the team statistics. There is no reason to suppose that small holders who would have been called bordars or cottars elsewhere were concealed under the name of *villani* in Norfolk and Lincolnshire; and even if they were so concealed in sufficient numbers to explain the peculiarities of the team statistics for those counties, we should still have to take the statistics as representing agrarian realities, though in such a case we might think it more appropriate to speak of an abnorml proportion of these other classes than of *villani* with abnormally small holdings.

The second question is a more serious matter. Alike in Gloucestershire and Herefordshire, in Bedfordshire and Sussex,

sokemen and *liberi homines* are either not to be found at all, or are so few in number that they may safely be neglected. But in Lincolnshire Ellis reckoned that there were over 11,500 sokemen as compared with 7,723 *villani*; and in Norfolk *liberi homines* and sokemen together numbered some 9,000 as compared with 4,731 *villani*. Obviously this means that if the sokemen and *liberi homines* had possessions comparable with the possessions of the more prosperous *villani* in Gloucestershire, Herefordshire, Bedfordshire and Sussex, the apparent contrast between the two sets of counties might be reduced to a mere difference in terminology, or, perhaps one should rather say, the contrast might be explained, not as a contrast of economic conditions, but as one of legal status, the more prosperous peasants of the Scandinavian east being distinguished from the *villani* by their greater freedom, while their economic counterparts in the other counties were not so distinguished.

The hypothesis can be tested by compiling team statistics for the classes in question. Perhaps it will be sufficient to make the test for the Lincolnshire sokemen. Fortunately Domesday is here kind to us and supplies statements about the teams of 2,051 sokemen—a sample of over 17%. And I find that so far from resembling the better equipped among the *villani* of such counties as Gloucestershire and Sussex, these sokemen were decidedly less well furnished with plough-beasts than the average English *villanus*. They had on an average only 1·8 oxen apiece, as compared with an average of 2·9 oxen for the *villani* of the combined thirty-two counties. If we combine the figures for the Lincolnshire sokemen with those for the Lincolnshire *villani*—and such combination is what is really demanded by the conditions of the hypothesis we are examining—we get a total of 3,009 sokemen and *villani* who averaged 1·7 oxen apiece, and that is less than the average for the *villani* of every county except Lincolnshire and Norfolk. Of the total of 3,009 only 28·6% belonged to groups averaging more than a quarter of a team. Clearly our sceptical hypothesis must be abandoned. Like the "concealed bordars," the sokemen obstinately refuse to help the sceptic.[1] On the contrary, these Lincolnshire sokemen provide

[1] Professor Stenton has already pointed out that as regards the possession of plough-beasts there was "no material difference" between the sokemen and villeins in Lincolnshire; but his estimate that the ordinary sokeman and villein of this county was "a man of two or three oxen" seems to credit both classes with a better equipment than can be allowed them in view of my figures—*Introduction* to Foster and Longley, *The Lincolnshire Domesday and The Lindsey Survey* (Lincoln Record Soc., 1924), p. xx.

additional evidence for the conclusion that the peasants of this county were peculiarly poor in plough-beasts. We cannot compare them with sokemen in the counties whose *villani* were especially well equipped in this respect, for sokemen are there too few to be used for statistical purposes. But a comparison with Nottinghamshire is instructive. In the matter of villein teams Nottinghamshire appears to be a fairly average county. And the sokemen of Nottinghamshire were much better provided with plough-beasts than their fellows in Lincolnshire. According to Ellis there were 1,516 sokemen in Nottinghamshire, and we can ascertain the average teams of 211 of these—a sample of nearly 14%. They averaged practically three oxen apiece—2·9 if we include two sokemen who are described as *nichil habentes*. Only 8½% of those whose teams can be isolated from the teams of other classes belonged to groups averaging less than a quarter team, as against more than 56% in Lincolnshire. In Nottinghamshire thirty-nine out of 211 averaged half a team or more : in Lincolnshire only thirty-five out of 2,051 were in that position.[1]

III. The form of the statements in Domesday that relate to the villeins' teams prevents our learning much from them about the possessions of individuals. Yet they enable us to ascertain that some *villani* were substantial farmers and that there were others whose arable holdings must have been very small indeed. In the West Riding of Yorkshire, either at Barnsley or at Keresforth (it is not clear which), there was a villein possessed of two whole plough-teams.[2] There was another equally well provided at Gillingham in Dorset.[3] There was a third at *Haingurge* (? Hawkridge Farm, Hellingly) in Sussex.[4] At *Curemtone* in Devon; at Lyde and Moore in Herefordshire; at Clapham, Astwick and Clophill in Bedfordshire we find little groups of villeins who averaged somewhat more than a full team apiece.[5] Altogether we can infer the existence of at least one *villanus* who possessed a whole team or more in ninety-eight villages distributed over twenty counties, and that although our information covers not quite one-tenth of the total number of *villani* in the country; and it may well be that some possessors of whole teams—perhaps

[1] The Lincolnshire evidence is so compelling that I have not thought it necessary to compile team statistics for the sokemen and *liberi homines* of Norfolk. It should be noticed, however, that Maitland called attention to the fact that some of the *liberi homines* in that county were but scantily provided with plough-beasts, *op. cit.*, p. 106.

[2] f. 317.

[3] f. 80b.

[4] f. 21b.

[5] ff. 118, 182b, 212, 213b, 214.

a good many—lie concealed beyond the reach of arithmetical inference within the groups of villeins whose members had on an average less than a team apiece.[1] On the other hand, in addition to some seventy-five places in Lincolnshire, there are about seventy-five other villages (distributed over nineteen other counties) in which we are able to discern one or more *villani* who cannot have possessed more than a single ox, if indeed they possessed that. And though the contrasts we have previously noticed are apparent in this matter too—thirty-seven of these last seventy-five villages being either in Norfolk or Kent, while Sussex, Bedfordshire, and Gloucestershire provide nearly half of the ninety-seven villages in which the more affluent villeins can be traced—the range of local inequalities is also to be remarked. Ten counties—Yorkshire, Cheshire, Derbyshire, Nottinghamshire, Cambridgeshire, Suffolk, Kent, Sussex, Hampshire, Devon—are common to these two groups of twenty counties. Even Lincolnshire can show us, at North Kelsey, a villein who had six oxen.[2] Even in Norfolk the village of Breckles included among its inhabitants two villeins with a full team between them.[3] And though Sussex contained many exceptionally well-to-do villeins, at Preston in that county there were only two oxen among five *villani*.[4]

[1] Of the ninety-eight localities, twenty-five are in Sussex, seventeen in Yorkshire, thirteen in Bedfordshire and ten in Gloucestershire.

[2] f. 347.

[3] Vol. II, f. 126b.

[4] f. 20b.

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[Tables I, II and III follow (pp. 262–4).]

Table I

The Average Number of Plough-beasts per Villein of those Villani *whose Teams are Separately Stated in Domesday Book*

(Counties where the information is only available for less than 5% of the total number of *villani* are printed in italics.)

Counties where the *villani* had on an average more than ½ a team each.		Counties where the *villani* had on an average ⅜ of a team or more but less than ½ a team each.		Counties where the *villani* had on an average ¼ of a team or more but less than ⅜ of a team each.		Counties where the *villani* had on an average less than ¼ of a team each.	
Herefordshire	4·8	Bedfordshire	3·7	Staffordshire	2·9	Kent	1·8
Gloucestershire	4·7	*Worcestershire*	*3·7*	Yorkshire	2·9	Rutland	1·8
Sussex	4·1	Buckinghamshire	3·6	Hampshire	2·8	Lincolnshire	1·5
		Dorset	*3·4*	Cheshire	2·7	Norfolk	1·0
		Hertfordshire	3·3	Nottinghamshire	2·7		
		Essex	*3·1*	*Somerset*	*2·7*		
		Huntingdonshire	3·1	*Suffolk*	*2·7*		
		Berkshire	3·0	Cambridgeshire	2·6		
		Devon	3·0	*Oxfordshire*	*2·6*		
		Shropshire	3·0	*Wiltshire*	*2·6*		
				Derbyshire	2·5		
				Leicestershire	*2·5*		
				Northamptonshire	2·5		
				Warwickshire	*2·5*		
				Surrey	*2·4*		

Average for 32 Counties = 2·9

Note.—The figures show the number of oxen on the assumption that there were eight oxen in a team. But the unit is really one-eighth of a full team. Where a team of less than eight was reckoned as a full team, as was sometimes the case at least in Devon and Somerset, the figures exaggerate the average number of oxen possessed by the villein. But as an index to the area of arable he possessed, one-eighth of a team is probably a better unit of measurement than an ox where these differ. I agree with Pollock in thinking that "where they were found, the smaller team of six oxen or the greater one of ten was about equal in working power to the more usual team of eight oxen elsewhere" (*English Historical Review*, Vol. XI (1896), p. 813).

Table II

The Numbers of Villani *in each County whose Plough-Teams are Separately Stated in Domesday Book Distributed According to the Average Fraction of a Plough-Team Possessed by the Members of each Group.*

County	No. of *villani* in groups averaging more than 1 team per villein.	No. of *villani* in groups averaging just 1 team per villein.	No. of *villani* in groups averaging more than ½ a team but less than 1 team per villein.	No. of *villani* in groups averaging just ½ a team per villein.	No. of *villani* in groups averaging more than ¼ but less than ½ a team.	No. of *villani* in groups averaging just ¼ a team.	No. of *villani* in groups averaging more than ⅛ but less than ¼ a team.	No. of *villani* in groups averaging just ⅛ a team.	No. of *villani* in groups averaging less than ⅛ a team.	Total number of *villani* whose teams are separately stated.
Bedfordshire	25	29	267	127	638	92	52	0	0	1,230
Berkshire .	0	0	31	18	73	12	13	0	17	164
Buckinghamshire	0	17	36	30	50	22	63	0	0	218
Cambridgeshire .	0	5	11	13	134	8	68	4	0	243
Cheshire .	0	4	10	10	28	13	21	8	0	94
Derbyshire .	0	1	9	14	123	25	81	8	0	261
Devon .	7	5	36	68	222	46	106	19	3	512
Dorset .	1	2	3	13	3	6	12	0	0	40
Essex. .	0	0	8	1	15	8	5	4	0	41
Gloucestershire .	0	81	103	65	154	4	3	0	0	410
Hampshire .	0	2	22	27	185	27	31	11	0	305
Herefordshire .	6	16	64	51	40	6	0	0	0	183
Hertfordshire .	0	0	50	8	156	22	14	0	0	250
Huntingdonshire .	0	0	60	35	308	29	72	4	5	513
Kent . .	0	2	0	13	222	49	193	39	117	635
Leicestershire .	0	2	7	2	21	12	38	0	0	82
Lincolnshire	0	0	13	8	120	114	308	187	208	958
Norfolk .	0	0	0	2	7	2	147	44	151	353
Northamptonshire .	0	0	43	21	72	70	86	20	9	321
Nottinghamshire .	0	1	15	40	82	24	56	14	0	232
Oxfordshire	0	0	0	22	51	8	21	4	0	106
Rutland .	0	0	0	0	15	0	43	0	0	58
Shropshire .	0	8	22	23	140	46	42	0	0	281
Somerset .	0	0	35	15	50	20	55	8	0	183
Staffordshire	0	1	30	8	41	16	42	0	0	138
Suffolk .	0	4	0	4	12	12	10	2	0	44
Surrey .	0	0	0	5	25	8	10	6	0	54
Sussex .	3	57	145	59	294	40	14	4	5	621
Warwickshire .	0	0	0	28	35	41	14	0	6	124
Wiltshire .	0	1	0	1	3	12	0	0	0	17
Worcestershire .	0	1	22	13	34	0	0	0	0	70
Yorkshire .	1	27	329	139	842	223	346	20	65	1,992
All 32 Counties. .	43	266	1,371	883	4,195	1,017	1,966	406	586	10,733

Table III

The Numbers of Villani *in each County whose Plough-Teams are Separately Stated in Domesday Book Distributed According to the Average Fraction of a Plough-Team Possessed by the Members of Each Group and Expressed as Percentages of the Total Number of* Villani *in each County whose Plough-Teams are Separately Stated.*

County.	Averaging more than 1 team.	Averaging just 1 team.	Averaging more than ¾ a team but less than 1 team.	Averaging just ¾ a team	Averaging more than ½ but less than ¾ a team.	Averaging just ½ team	Averaging more than ¼ but less than ½ team.	Averaging just ¼ team	Averaging less than ¼ team.
Bedfordshire . .	2·0	2·4	21·7	10·8	51·9	7·5	4·2	Nil	Nil
Berkshire . .	Nil	Nil	18·9	11·0	44·5	7·8	7·9	Nil	10·4
Buckinghamshire .	Nil	7·8	16·5	13·8	22·9	10·1	28·9	Nil	Nil
Cambridgeshire .	Nil	2·1	4·5	5·8	55·1	3·3	28·0	1·6	Nil
Cheshire . .	Nil	4·3	10·6	10·6	29·8	13·8	22·3	8·5	Nil
Derbyshire . .	Nil	0·4	3·4	5·4	47·1	9·6	31·0	3·1	Nil
Devon . . .	1·4	1·0	7·0	13·3	43·4	9·0	20·7	3·7	0·6
Dorset . . .	2·5	5·0	7·5	32·5	7·5	15·0	30·0	Nil	Nil
Essex . .	Nil	Nil	19·5	2·4	36·6	19·5	12·2	9·8	Nil
Gloucestershire .	Nil	19·8	25·1	15·9	37·6	1·0	0·7	Nil	Nil
Hampshire . .	Nil	0·7	7·2	8·9	60·7	8·9	10·2	3·6	Nil
Herefordshire .	3·3	8·7	35·0	27·9	21·9	3·3	Nil	Nil	Nil
Hertfordshire .	Nil	Nil	20·0	3·2	62·4	8·8	5·6	Nil	Nil
Huntingdonshire .	Nil	Nil	11·7	6·8	60·0	5·7	14·0	0·8	1·0
Kent . . .	Nil	0·3	Nil	2·0	35·0	7·7	30·4	6·1	18·4
Leicestershire .	Nil	2·4	8·5	2·4	25·6	14·6	46·3	Nil	Nil
Lincolnshire . .	Nil	Nil	1·4	0·8	12·5	11·9	32·2	19·5	21·7
Norfolk .	Nil	Nil	Nil	0·6	2·0	0·6	41·6	12·5	42·8
Northamptonshire .	Nil	Nil	13·4	6·5	22·4	21·8	26·8	6·2	2·8
Nottinghamshire .	Nil	0·4	6·5	17·2	35·4	10·3	24·1	6·0	Nil
Oxfordshire . .	Nil	Nil	Nil	20·8	48·1	7·5	19·8	3·8	Nil
Rutland . .	Nil	Nil	Nil	Nil	25·9	Nil	74·1	Nil	Nil
Shropshire . .	Nil	2·8	7·8	8·2	49·8	16·4	14·9	Nil	Nil
Somerset . .	Nil	Nil	19·1	8·2	27·3	10·9	30·1	4·4	Nil
Staffordshire . .	Nil	0·7	21·7	5·8	29·7	11·6	30·4	Nil	Nil
Suffolk . . .	Nil	9·1	Nil	9·1	27·3	27·3	22·7	4·5	Nil
Surrey . . .	Nil	Nil	Nil	9·3	46·3	14·8	18·5	11·1	Nil
Sussex . . .	0·5	9·2	23·3	9·5	47·3	6·4	2·3	0·6	0·8
Warwickshire .	Nil	Nil	Nil	22·6	28·2	33·1	11·3	Nil	4·8
Wiltshire . .	Nil	5·9	Nil	5·9	17·6	70·6	Nil	Nil	Nil
Worcestershire .	Nil	1·4	31·4	18·6	48·6	Nil	Nil	Nil	Nil
Yorkshire . .	0·1	1·4	16·5	7·0	42·3	11·2	17·4	1·0	3·1
All 32 Counties .	0·4	2·5	12·8	8·2	39·1	9·5	18·3	3·8	5·5

REVIEWS

The Probability Approach in Econometrics. By TRYGVE HAAVELMO. (University of Chicago: Cowles Commission Paper No. 4, 1944. Pp. viii + 118.)

THIS publication, which has also been issued as a supplement to *Econometrica*, should be read by everyone interested in statistical economics. Since the discussion between Keynes and Tinbergen in this JOURNAL on the logic of econometric research a number of articles have appeared with the object of expounding and justifying the procedures used in this field.[1] This paper is the most comprehensive exposition of all, and combines a clear statement of the logical foundations of econometrics with an account of the author's brilliant contribution to that subject, which is having such a revolutionary effect on the procedures used in the estimation of economic relationships. In particular, it may be recommended to those who are sceptical of econometric work, for, as Koopmans has remarked,[2] "the meaning of Haavelmo's work is that economic statistics has now caught up with economic theory. It has now become clear that methods of statistical estimation, even of a single equation of economic behaviour, must in some way take account of the fact that the variables entering that equation are part of the wider set of relevant economic variables which are determined by a complete system of simultaneous equations." The greater part of the exposition of this paper is intelligible to those without special mathematical equipment, despite the fact that mathematical notation is used freely and some parts of the argument are of a purely formal character. The analysis was first presented in mimeographed form in 1941, and the essentially new feature was presented in an earlier article in *Econometrica*.[3]

[1] In particular: "Econometric Business Cycle Research," by J. Tinbergen, in *The Review of Economic Studies*, Vol. VII, 1939–40, pp. 73–90; "The Logic of Econometric Business Cycle Research," by T. Koopmans, in *The Journal of Political Economy*, Vol. XLIX, April 1941, pp. 157–81; "Statistical Testing of Business-Cycle Theories," by T. Haavelmo, in *The Review of Economic Statistics*, Vol. XXV, February 1943, pp. 13–18; "Economic Interdependence and Statistical Analysis," by J. Marschak, in *Studies in Mathematical Economics and Econometrics* (1942), pp. 135–50.

[2] See "Statistical Estimation of Simultaneous Economic Relations," in *Journal of the American Statistical Association*, Vol. 40, December 1945, pp. 448–66.

[3] See "The Statistical Implications of a System of Simultaneous Equations," in *Econometrica*, Vol. 11, January 1943, pp. 1–12.

The paper contains six chapters dealing respectively with: abstract models and reality; the degree of permanence of economic laws; stochastical schemes as a basis for econometrics; the testing of hypotheses; problems of estimation; and problems of prediction.

An abstract model may be regarded simply as a restriction on the joint variations of a set of variables. It is pointed out in Chapter I that any exact model is likely to be contradicted by experience, so that one's model must be set up or one's theory formulated in terms of probability. In this less dogmatic form one's theory may be found not to be contradicted by observations. The observations must, however, be appropriate, so that with every theory we ought to specify what observable variables are to be identified with those in the theory, and also what procedures are admissible for carrying out the observations. This matter of specification is termed by Haavelmo a " design of experiments." If, for example, we suppose demand curves to be irreversible and to depend on the present position of the individual, then the relevant data could be obtained in principle by interviewing, but could not be obtained, even under the most favourable conditions, from historical records of prices and quantities. An irreversible scheme might, of course, be reduced to a reversible one by the introduction of additional variables.

Chapter II contains a discussion of the stability of economic relationships. The author points out that in many cases experience shows that relationships which are successful in explaining the variation of some economic phenomenon over one period break down when applied to a subsequent period, while, on the other hand, observations frequently satisfy much simpler relationships than are expected on theoretical grounds. An important problem in obtaining stable relationships arises from the difficulty of ensuring that the condition *ceteris paribus* is fulfilled in view of the fact that our observations are obtained, not by experiment or by randomising the factors with which we are not concerned, but from the complicated interactions of the real world. This means that we may have to introduce a comparatively large number of variables into any expression in order to hold other things constant and obtain the net relationship between, say, price and quantity in a demand study, while at the same time the smallness of the sample of observations available and the importance of common factors affecting the variation of many economic variables may make it impracticable to work with equations with so many terms. If we, then, neglect some of the terms

because in the sample period they are not from a purely empirical point of view needed, we run the almost certain danger that we shall be caught out in the next period, when the omitted terms again require separate considerations.

Because the movement of economic variables is restricted by a set of simultaneous relationships, there may be little opportunity for the hypothetical free variation, with which we start out in economic theory, to manifest itself. At the same time it is important that we should begin with a theoretical structure of autonomous relationships if we are to gain much insight into the processes of economic change. By way of analogy, Haavelmo remarks that if we want to understand the working of a motor-car, we should study thermodynamics, the dynamics of friction, etc., because these subjects lead to highly autonomous relationships in that field of investigation, while we should not spend time investigating empirically such relationships as that between the speed of the car and the angle of the accelerator pedal, which possess very little autonomy. This is clearly sound, and, if acted on by applied economists, should go far to close the gap which has frequently existed in the past between empirical and theoretical studies.

At the beginning of Chapter III it is pointed out that it is hopeless to expect exact functional relationships to be fulfilled in economics, since this position is not strictly encountered even in such exact sciences as astronomy. Accordingly, a stochastic, as opposed to a functional, scheme is set out which is more appropriate to economic investigations. The essential feature of such a scheme is that it allows for disturbances in the equations connecting the variables. These may take the form of errors of observation which can be associated with particular variables and disturbances due to omissions and simplifications which can be associated only with a given equation. The latter type, which is inevitably present in economic investigations, gives rise to a more fundamental type of difficulty than do mere errors of measurement. In particular, they require a revision of the existing theory of estimation of the constants in the equations connecting the variables, and this is discussed in Chapter V. Disturbances also lead to two distinct types of derived exact equations. One type is the solution which is given if we abstract from disturbances; the other is the expected value of the solution if disturbances are admitted. Thus if we have a demand equation derived from budget data of the form

$$v = e^{a+\epsilon}V^{b}$$

where the disturbance is represented by ϵ, a random variable with mean zero and variance σ^2, then if we assume there are no errors we have :

$$v^* = e^a V^b$$

On the other hand, the expected value of v given V, $E(v|V)$, is different from v^* being given by

$$E(v|V) = e^{a + \frac{1}{2}\sigma^2} V^b$$

so that the behaviour of the average family of given income V, $E(v|V)$, is not the same as that which would be observed, v^* if all the families acted alike without the differences introduced by the disturbance ϵ.

Chapter IV contains a brief description of the Neyman–Pearson theory of testing statistical hypotheses, which will be familiar to readers of the fundamental work of these two writers contained in the two issues of *Statistical Research Memoirs*, issued before the war by the Department of Statistics, University of London, University College. It is helpful in enabling the economist to see how a theory must be formulated if the statistician is to get profitably to work. It brings out clearly that the economist must specify the set of *a priori* admissible hypotheses before a test is constructed. The more this process of restriction can safely be carried out, the more hope there is of making valid inferences.

Chapter V follows out the implications for estimating the coefficients of economic relationships of the fact that each relation is part of, and influenced by, a system of stochastic equations. This means that there are factors operating to cause disturbances which are not explicitly introduced into our theory, and, further, that economic relationships do not exist on their own, but are part of a system of relationships. It is here that Haavelmo has made an important original contribution to the theory of estimation by showing that, except in special cases, unbiased estimates of the parameters in equations which form part of a system of the above kind cannot be obtained by considering each equation in isolation. This discovery opens up a new method of estimation which requires that the system of equations be written down in advance, even if we are only interested in one relationship, and considered as a whole. The difficulty of putting this principle into practice in the present state of knowledge calls for an examination of the circumstances in which the bias of the single-equation approach is especially serious, and of short cuts which can be adopted through the use of incomplete systems of two or more equations. These questions have been considered briefly in the

paper (1945) by Koopmans cited above, and will be dealt with more fully in a forthcoming publication of the Cowles Commission.[1]

Chapter VI deals briefly with some of the problems of prediction. In his conclusion Haavelmo states as his belief that "if economics is to establish itself as a reputable quantitative science, many economists will have to revise their ideas as to the level of statistical theory and technique and the amount of tedious work that will be required, even for modest projects of research. On the other side we must count the time and work that might be saved by eliminating a good deal of planless and futile juggling with figures." This is my belief also, and I look forward to the day, already overdue, when it finds recognition in the syllabuses for degrees in economics.

In conclusion, attention may be drawn to work on another aspect of the estimation problem dealt with in Chapter V which is going on currently. In Haavelmo's scheme we concern ourselves with disturbances in the equations of a system, but neglect the sampling problems arising from errors of measurement in the variables. This latter question has been attacked recently by Tintner,[2] though in his case errors are dealt with to the neglect of disturbances. Haavelmo's estimation problem is, I think, novel in a way in which Tintner's is not, but both writers have put statistical economists very much in their debt.

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World Economic Survey, 1942–44. (Geneva: League of Nations (London: Allen & Unwin), 1945. Pp. 299. 10*s.*)

Commercial Policy in the Post-War World. (Geneva: League of Nations (London: Allen & Unwin), 1945. Pp. 124. 5*s.*)

THIS volume of the *Survey* covers the period from the autumn of 1942 to the close of 1944—a period of full war economy, when total world output was greater than ever before, although 50 million men were under arms. A general outline is followed by chapters on Production, Consumption and Rationing, Finance

[1] *Statistical Inference in Dynamic Economic Systems*, being the proceedings of a conference to be published in the series of Cowles Commission Monographs.

[2] See, in particular, "A note on Rank, Multicollinearity and Multiple Regression," in *Annals of Mathematical Statistics*, Vol. 16, September 1945, pp. 304–8, and "Multiple Regression for Systems of Equations," in *Econometrica*, Vol. 14, January 1946, pp. 5–36.

and Banking, Price Movements and Price Control, International Trade, and the Transport Situation. As usual, a great mass of information is admirably summarised.

One point which emerges clearly is the great productive capacity of the United States and Canada. Both countries nearly doubled their peace-time output. In addition to their very large contribution to the war effort, they were able to maintain consumption (except for durable goods such as motor-cars) above pre-war levels. In 1944 the meat production of the United States was nearly two-thirds above the average for 1935–39; it is perhaps permissible to add that some seven feed calories are needed to produce one calorie of animal products for human consumption.

In Europe capital equipment could not be properly maintained, and during this period much damage was caused, especially in Germany, by bombing and, especially in Russia and Italy, by the retreating German armies. Thirty million people were homeless. Levels of consumption fell, despite a large increase in the "vegetable ratio" in human diet. In Poland, Greece, and parts of Yugoslavia "many people, especially in the towns, must have lived in a state of semi-starvation."

Some countries, especially in Latin America and in the sterling area, had considerable export surpluses with which they acquired sterling or dollar balances or gold. In 1944 the United States still held two-thirds of the recorded central gold reserves (outside the U.S.S.R.) of 30 milliard dollars. But gold and dollar balances held by the world outside the United States were estimated at some 20 milliard dollars.

Many tables are given on war finance. Central and local taxation in 1943 absorbed 37% of the national income of the United Kingdom. For other countries the corresponding percentage was lower; in the United States it was 30. A number of neutral countries greatly increased their defence expenditure, and covered less than half their public expenditure from revenue. Everywhere national debts increased, but inflation and lower rates of interest kept down the debt charge as a percentage of national income.

Measures to control the rise in price-levels met with varying success. In Greece there was a runaway inflation. In China the price-level was over 500 times greater than in 1937, but "stability" was achieved in the sense that the monthly increase in prices was held down to a steady 10–12% ! Next in the inflation scale came Italy, South-eastern Europe, Finland, Iceland, the Middle East, India and Japan with increases of 500–1,000% in

their note circulations. (It should be noted, however, that in India and Egypt price-levels less than trebled.) Germany and Western European countries came next with increases of 300–500%. In Germany there was a growing movement towards barter. Belgium carried through successfully a reduction in her note issue.

The *Survey* shows the great advantages of territorial specialisation even in war-time. During this period the defeat of the German submarine campaign and the prodigious output of ships in the United States enabled the United Nations to make more effective use of their combined resources, through lend-lease and mutual aid, and to draw on outlying regions for agricultural and mineral supplies for their centres of war production. The German war effort, on the other hand, was impeded more and more by being deprived of the advantages of territorial specialisation. The heavy and almost continuous bombing of German transport forced her into an " air-raid economy," with war production dispersed as widely as possible, and every district driven towards self-sufficiency. In the course of 1944 Germany was increasingly denied materials from outside—manganese from the Ukraine, chrome from Turkey, wolfram from Spain, iron-ore and other products from Sweden. " The military events of the summer of 1944 " deprived her of access to " a large number of vital products, ranging from Roumanian oil to French aluminium."

Commercial Policy in the Post-War World is a discussion of how more territorial specialisation can be secured in peace-time. The Economic and Financial Committees offer conclusions and suggestions from their own experience during the inter-war period.

Their patient and carefully-planned efforts achieved a good deal. Their valuable drafts on M.F.N. treatment, attached to this Report for reference, were widely used. Their model treaties on the removal of double-taxation formed the basis of over a hundred bilateral agreements. Their Standard Customs Nomenclature, completed in 1937, were adopted in whole or in part by more than a dozen countries. But the recommendations of the 1927 Conference, approved by nearly all member governments, had only a short-lived effect. With the Great Depression " throughout a large part of the world, trade was strangled and trade relationships became increasingly discriminatory."

The Committees believe that now the prospects are brighter for long-term policies to secure greater freedom and less discrimination

in international trade. The nations are pledged to these aims; and the lesson of the 'thirties, that greater freedom of trade is essential for active and efficient employment, was clear and conclusive. Accordingly, the Committees offer many useful suggestions on methods and details, ranging from multilateral conventions to cartels and commodity control schemes.

But the forces of economic nationalism and of vested interests are strong, and cannot be defeated either by logic or by the lessons of the past. Much will depend on the initiative and drive of the United States. A good deal will depend also on the proposed International Trade Organisation.

Between the wars, "for dealing with the central issues of commercial policy, the machinery and equipment for international action were inadequate. The powers of the Economic Committee were limited. The headquarters staff at Geneva concerned with questions of commercial policy never exceeded half a dozen senior officials; there was therefore no question of its being able to study in detail the problems and policies of individual countries or to keep in constant touch, as was required, with national administrations throughout the world. The absence was felt, moreover, of any international body with power to mediate or arbitrate, when so requested, in connection with trade disputes between States."

What is the moral? Is it not that the International Trade Organisation should be equipped with all the rights to be consulted and powers to take action which nations can be persuaded to give it? Such a body, well-staffed, and in close touch with Governments and their problems, might be able to initiate and carry through detailed multilateral agreements for the benefit of all. Success would be more likely if Governments would send delegates with power to act, within limits, on their behalf, and to exchange concessions against concessions. The greater the fraction of their economic sovereignty which Governments can be induced to surrender to this Organisation, which will exist solely to put into practice the principles to which they themselves are pledged, the greater will be the chance of attaining the goal for which these Committees worked so steadfastly and well against insuperable odds.

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The Impact of the War on Civilian Consumption in the U.S., U.K., and Canada. (London: H.M. Stationery Office, 1945. Pp. 163. 2*s.* 6*d.*)

In April 1944 the Combined Food Board published its first Report comparing "Food Consumption Levels in the United States, Canada and the United Kingdom." This showed a substantial fall during the war in this country, and a substantial rise in North America. The volume under review, which was prepared for the Combined Production and Resources Board by a special Combined Committee on Non-Food Consumption Levels, covers the whole field of civilian consumption. The conclusion is reached that consumer purchases per head (measured at constant prices) fell by about one-sixth in the United Kingdom and rose by about one-sixth in both the United States and Canada.

The first part of the Report explains the main reasons for this discrepancy. The most important was, of course, that both the United States and Canada had, before the war, a much higher proportion of unused human resources on which to draw. They had a larger proportion both of "unoccupied" and of "unemployed," and a shorter working week. It can be estimated, from figures given in the Report and elsewhere, that, all told, the Americans before the war were working only about 70% as many man-hours as the British, per head of the adult population. This enabled them to make their war effort largely out of a greatly increased national production, without any overall cut in consumption.

The second part of the Report gives more details of changes in the various items of consumption (food, clothing, housing, fuel, etc.). It gives a fuller picture than can be shown by statistical index numbers of real consumption, which by themselves may be somewhat misleading, as, for example, the calculated war-time increase of 9% in the average British civilian's "consumption" of housing.

Finally, the Report contains nearly a hundred pages of closely printed appendices. These do more than explain in detail the methods used in calculating the figures in the text (thereby providing, incidentally, a valuable illustration, for the student, of statistical snags and dodges, and of the use and limitations of index numbers and national income figures). The appendices also comprise, with the rest of the Report, an invaluable statistical handbook. Here we find many useful tables, not only on the

various aspects of civilian consumption, but on national income, man-power, population and other topics.

In Appendix XII "the official estimates of national income and gross national product in the three countries have been adjusted so as to bring them into line with a set of agreed definitions." Although difficulties and ambiguities remain, an important step forward has clearly been made.

In Appendix XIII estimates are made of the numbers engaged, directly or indirectly, on "war work," not only in the Armed Forces and the metal and chemical industries (the narrow definition often used), but also in most of the other industries and services. It is shown that the proportion of our labour force engaged on war work in 1944 was, not just over 40%, as the narrower definition would suggest, but about 55%. This latter figure, though involving a considerable amount of guess-work, is a much more satisfactory measure than the former, and more in line with the proportion of our national product devoted to the war. (The corresponding estimate for both Canada and the United States is about 40%.)

Perhaps the most interesting appendix of all is number XI, where, after a full discussion of the difficulties involved, it is estimated that total consumption per head in the United Kingdom in 1938 was 80–90% of that in the United States in 1939. (The corresponding estimates for the main groups, covering about three-quarters of all consumers' purchases, are: fuel and electricity, 110%; clothing, footwear, housing, 100%; food, 90%; drink, tobacco, household goods, 80%; motor vehicles and their operation, 20%.) It is not without interest that a crude comparison of the total pre-war value of consumers' purchases per head in the two countries, converting dollars into pounds at the 1938 rate of exchange (and allowing for the small change in American prices between 1938 and 1939), gives a similar result—about 84%; perhaps the pre-war market rate of exchange was not such a bad conversion factor, after all.

The Report represents an encouraging advance in international statistical co-operation. It also shows a greater readiness than hitherto, on the part of our own Government statisticians at least, to depart from statistical purity, and give to the public the results of their intelligent guess-work and judgment—surely a desirable development, provided the assumptions and methods of calculation are fully set out. Thus, in this Report they have ventured into the field not only of temporal, but also of international comparisons of real consumption. They have given us

indices of total munitions production, and compared the total volume of munitions produced in the three countries (the estimated ratios for 1943 are roughly: U.S. : U.K. = 4 : 1; U.K. : Canada = 5 : 1). It is perhaps a pity that they did not feel able to go a step farther, and compare the changes in the real national incomes (except in the case of the United States and Canada), and in their constituent parts—consumption, war product, investment. This would have rounded off the quantitative comparison of the "impact of the war on civilian consumption" in the three countries.

A good deal of statistical material has now been published about our war losses—losses of consumption, of overseas assets, of houses, of lives, and so on; and these have been compared with the losses of some of our allies. It is important that the world, both of to-day and of to-morrow, should realise, not only how much we suffered, but also how much we contributed to victory. The excellent publication entitled *Statistics Relating to the War Effort of the United Kingdom* was an important step in the right direction, but, like most other such publications, it scrupulously eschewed international comparisons. The Report on civilian consumption has shown that statistical comparisons can be presented in a manner that is not odious. Could not the same thing be done for war efforts? It can be estimated from figures given in the Report under review that, per head of the population, our output of munitions during the war was roughly the same as that of the United States, while the man-years served in our Armed Forces were about twice as numerous; so that we should not come badly out of the comparison. A joint report which set out dispassionately, side by side, for the United States and the various countries of the Empire, the main statistical facts about war production, international aid, and military efforts in the various theatres, on land, on sea and in the air, would be invaluable not only to the statistician and the historian, but as a contribution to international understanding.

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The Economics of Peace. By KENNETH E. BOULDING. (New York: Prentice-Hall Inc., 1945. Pp. vii + 278. $3.75.)

MR. BOULDING has written a valuable contribution to simpler economics. He discusses the problems of reconstruction and reform so as to resolve the main perplexities of the ordinary man, and shows a vigour, directness and freedom from jargon that make his book extremely readable.

The first section—"The Economics of Reconstruction"—is admirable. The argument is in general terms, demonstrating how the essence of the problem lies in the rapid replacement of capital losses, and illustrating how these losses may lead to famine and inflation. At the same time, the general argument is reinforced by the lessons of experience after the war of 1914–18, and is brought to bear, in the most concrete way, on the problems with which Europe is now grappling.

Especially in dealing with agriculture, Mr. Boulding knows exactly what to emphasise, what to warn us against, and what to recommend. "The year after the war," he predicts, "may very well see a famine greater than that of 1919," and he goes on to urge the planning of a relief programme covering at least five or six years. He foresees, with considerable accuracy, the impediments to agricultural recovery in Europe: the shortage of fertilisers (phosphates are described as "the Kingpin of European reconstruction"); the depletion of farm equipment and the lack of fuel to make full use of it; the decline in live stock; the shortage of feeding-stuffs; and the difficulty of inducing the farmers to grow and sell food when the towns have little or nothing to offer in return. It is in fact astonishing how much the problems of physical reconstruction in 1946 have in common with the similar problems that arose in 1919.

The second, and larger, part of the book—"The Economics of Reform"—falls into two sections: in the first, Mr. Boulding discusses economic progress, poverty, unemployment and international trade, and in the second, he shies a number of bricks, with some dexterity, at a row of Aunt Sallies labelled "Right-Wing Illusions" and "Left-Wing Illusions." It may be of interest to British readers to learn that there is no mention whatever in this section of "nationalisation."

In his proposals for a full-employment policy—the most controversial part of the first of these sections—Mr. Boulding relies mainly on an "adjustable tax plan." "Only by appropriate manipulations of Governmental expenditure and receipts," he

says, "can money income be stabilised and general depressions abolished." He does not favour public works because such expenditures should, in his judgment, "be determined on their own merits, and not with a view to their effects on money income." He also appears to hold a similar view of expenditure on the social services : it is curious that, for all his emphasis on the need to subsidise consumption, he should confine his discussion of the social services to a single sentence suggesting that "it may be possible to encourage consumption directly, by direct subsidy or gift—for example, the distribution of milk to children, school meals, free education, the food stamp plan, and the like." Apart from various measures designed to encourage private investment, adjustments in fiscal policy are conceived of almost exclusively in terms of variations in rates of taxation.

One would expect to find so important an expedient related both to the dimensions of the problem to be solved and to the administrative machinery necessary to bring the plan into operation. Mr. Boulding shows some reluctance—not unnatural in a book of this kind—to become involved in statistics and administrative detail. But if we are to judge what can be accomplished by tax adjustments, we ought to have some idea of the limits of tax adjustment compared with the probable limits to the variations in investment that fall to be controlled. We ought also to know whether the taxes to be varied are such that the expenditure of taxpayers would respond rapidly to tax concessions, and whether these concessions could become operative as soon as the need arose to make them, or whether they would have to wait for the next budget. Finally, we ought to know upon whom it would rest to determine the current rate of tax and how this responsibility would be brought under Parliamentary control. On most of these points Mr. Boulding is silent.

He does, however, consider the more obvious objections to his plan. He is at pains to reassure the conservatives who fear a continuous rise in the national debt; and takes rather less trouble to reassure the radicals who fear that the means are insufficient to the end proposed and inconsistent with a policy of income redistribution. But he does not sound very convincing except on an assumption which he himself challenges elsewhere : namely, that investment can be expected to *oscillate* round what is needed for full employment, and that there is no chronic deficiency of investment opportunities in relation to habits of thrift. If, as he suggests, we are in sight of the stationary state where savings are nil, can we be confident that "situations in which large reductions

in taxes are necessary are unlikely to occur very often "? In such a situation, is tax remission the right instrument for combating deflation?

Mr. Boulding gives no clear answer to this objection. He allows the possibility that taxation may sometimes have to be negative. But he clearly attaches little importance to this since he has just argued that "if an adjustable tax plan were in operation, it is likely that the adjustments that actually had to be made would be relatively small, for if people *knew* that deflation or inflation would both be prevented, they would not expect deflations or inflations, and . . . it is the expectation of price and income movements which is the main factor in causing them." It looks as if some of the confusion was due to a desire to hunt with the neo-Keynesian hares and ride with the Old Pigovian hounds!

Even the conservatives, for whom the plan has obvious attractions, may conclude that Mr. Boulding protests too much when he assures them that the plan "does not necessarily involve a perpetual increase in the national debt, even in a persistently deflationary situation." This contention hinges on the fact that a budget deficit can be financed by the issue of currency without resort to borrowing. But currency is nowadays only an interest-free form of debt and its popularity is limited precisely because no interest is paid. No substantial Government deficit could be financed by the issue of notes.

When he comes to deal with international trade, Mr. Boulding accepts, rather uncritically, the possibility of a revival of foreign investment by the United States. The main reason (other than desire to assist foreign countries) for recommending large-scale investment abroad is the desire to obtain "a breathing-spell in which to perform the vital task of economic education" in the need for subsidised consumption, and the fear that this task may not be an easy one. "The rich everywhere fear the rise in the standard of life of the poor because they are still thinking in pre-technical terms and believe subconsciously that if the poor become richer the rich must become poorer." However this may be, it is easy to show that there is no way out through foreign investment; few countries are in a position to borrow from America with any real prospect of repayment and the sums involved are anyhow small in relation to America's investment potential. It would surely be much easier and more effective to embark on a nation-wide programme of slum clearance and re-housing which might well reach $10 billion a year.

The later parts of the book are trenchant and provocativ sometimes needlessly so. Would the skeletons of Belsen agree that "there is little in the German treatment of the Jewish people that finds no parallel in the American treatment of the Indian and the Negro"? Is the difference between the average business and the average battalion or bomber station wide enough to justify the suggestion that "the perfect and completely planned economy is an army"? Is there in fact "no such thing as the working class"? And can we believe, after fifty years of progressive taxation, that "scarcely any act of government . . . is conceivable which will benefit the working class as a whole at the expense of the employing class as a whole"?

Whatever criticisms one may offer, this is a most able exposition of current problems and ideas and exactly suited to the needs of the layman unfamiliar with technical economics.

ALEC CAIRNCROSS

London.

International Investment and Domestic Welfare. By NORMAN S. BUCHANAN. (New York: Henry Holt and Co., 1945. Pp. xvi + 249. $2.75.)

THE American predicament is only too familiar to us: how to live 50% better than before. Never has there been such a panic over an embarrassment of riches. It is a panic which is felt not only in America, but in every other country whose trade responds to the vagaries of the American market. Yet most of those countries are in a very different predicament: how to recover pre-war standards of living or achieve the standards of an industrialised community. They are as much embarrassed by lack of capital as America by the prospect of a surplus. It is natural, therefore, to consider whether this mutual embarrassment might be turned to mutual advantage through the use of American capital for reconstruction and industrialisation overseas.

This is the problem to which Professor Buchanan addresses himself. He shows conclusively that the scope for foreign investment on commercial terms in limited, that the direct advantage to America would be slight, that unless investment were on a steadily rising scale, any expansion in the export trades would be short-lived, and that the service and eventual repayment of the loans, even if tariffs were lowered, would be no easy matter. With these propositions, which are argued with great force and lucidity, no one can quarrel who takes the trouble to study

Professor Buchanan's book. He has undoubtedly provided a useful corrective to much wishful thinking on both sides of the Atlantic.

The conclusions at which he arrives are not incompatible with a desire to offer American assistance to foreign countries, especially during the critical years of relief and reconstruction. Professor Buchanan supports American participation in the International Bank and the International Monetary Fund and confines his admonition to caution to loans in excess of American commitments to these institutions. He appreciates the special difficulties of Great Britain and expresses broad agreement with a policy of offering "tangible assistance." He does not rule out gifts to other countries or loans on non-commercial terms. He would like to see "a systematic lowering of the American tariff to discover the absorptive capacity of the American market for foreign goods and services": emphasising that unless this is done immediately after the war, the opportunity to effect a reduction may be lost and not return. Finally, he draws attention to the large dollar balances accumulated by foreign countries during the war. Counting in the increase in gold held abroad by foreigners, he estimates that the rest of the world at the end of 1944 held the equivalent in dollar funds of $10 billion, more than five times total American exports in 1937. For most countries, therefore, there should be no danger of an *immediate* dollar famine.

Professor Buchanan's views are based on an analysis that is admirably concrete. He starts by looking at things from the borrower's point of view, and shows how reconstruction and industralisation both hinge on the accumulation of capital. This is an extremely stimulating discussion from the point of view of the theory of capital as well as of international trade. How much less academic the theory of capital would be if economists kept firmly in mind two of the many interesting points arising from the statistics quoted here: first, that in America commercial and industrial equipment (other than buildings) amounts to only 8% of total capital (excluding land) and is not much more than twice farm capital (including live stock but excluding land and buildings); and second, that buildings (including railway track) are over half the total capital of America (45% in 1920 and 56% in 1938)! And how much more adequate, outside America, are the statistics of income than of capital! In a gallant attempt to estimate the probable arrears of maintenance in Europe, Professor Buchanan tries to establish normal relationships between maintenance, replacements and stock of capital but is forced to

make do with American statistics for lack of comparable data for European countries.

Professor Buchanan reminds us that there is generally a choice before any country with a standard of living above subsistence level as soon as it seeks either reconstruction or industrialisation: capital for these purposes can generally be obtained by belt-tightening or by foreign borrowing and it is necessary to decide in what proportion to combine the two. In normal circumstances, the country will be under no *compulsion* to finance its programme of development or recovery by foreign loans, since only a small part of the loans is likely to be applied directly to the purchase of imported equipment, and the major part is used as a prop to the standard of living while the work of capital construction is proceeding. Willingness to accept short rations would generally, therefore, be just as effective. There is a further choice between various types of investment, since a country in process of recovery may give priority to the replacement of manufacturing capital and defer the construction of dwelling-houses, public buildings, etc. until an improvement in the standard of living can be afforded. The technique of belt-tightening had not got very far in the heyday of foreign investment before the war of 1914–18, and there was no real choice between foreign borrowing and the self-discipline of a Spartan standard of living in the interests of economic progress. We may yet see the balance tilted the other way.

When Professor Buchanan comes to look at things from the point of view of the lender, he recognises that in practice this can be taken to mean the United States, since few other countries are able or willing to lend abroad. He recognises also that it is impossible to consider the flow of capital in isolation from the flow of trade and that the future of world trade, equally with foreign lending, will be governed mainly by American policy. As he points out, " a prompt lowering of the American tariff coupled with the announced intention to maintain income and employment in the United States at a high level by policies directed towards increasing investment and world trade would have a marked influence upon the policies adopted by other countries that now hang in doubtful hesitation between self-sufficiency and participation in world trade as the objectives of commercial policy." If America fails to achieve a stable national income at a level that means full employment for her workers, and maintains her tariffs against manufactured imports, other countries will have no option but to prepare for a dollar famine and a breakdown

of multilateral trade. Such preparations would hardly be likely to involve extensive borrowings from the United States except on conditions that made repayment little more than a nominal obligation.

One minor criticism of Professor Buchanan's analysis may be offered. He argues at some length that home investment is more beneficial to employment than foreign investment because it "concentrates spending in the capital goods industries directly where the primary employment effect is likely to be greater and where the dangers of a slump developing are most acute." If one could not equate exports and foreign lending, this would be unexceptionable. But if there is normally such a keen demand for American goods that foreign lending is the limiting factor to exports and the two can be equated, what then? America will be offered the choice between finding some further investment opportunities at home and accepting a series of invitations to sustain investment overseas. The acceptance of these invitations can be depended upon to maintain employment in her export trades while she is relieved of the need to expand her capital goods industries. The real questions she has to decide are: Will foreign investment opportunities be more or less unstable than domestic? Will she be able to exercise as much control over the one as over the other? And can she hope to find sufficient projects for home investment to make it easy to spurn foreign borrowers?

Although Professor Buchanan is mainly concerned with the current American dilemma, what he has to say is of more than topical interest. This is one of the best contributions to international trade problems that has appeared for some time.

ALEC CAIRNCROSS

London.

A Synthesis of Pure Demand Analysis. By HERMAN WOLD. Three Parts, reprinted from *Skandinavisk Aktuarietidskrift*, 1933–44. (Uppsala: Almqvist and Wiksells. Pp. 33 + 43 + 51.)

ECONOMISTS with tidy minds and a moderate head for mathematics will enjoy these three pamphlets. The author sets out clearly and logically, and, thank Heaven, in lucid English, the four main theories of demand—the classical utility theory, the "demand function" approach of Cournot, Walras and Cassel, the "indifference surface" approach of Pareto, and the "marginal substitution" theory of Hicks and Allen. He then shows that

the demand function and marginal substitution theories are self-contradictory unless certain mathematical "integrability conditions" are fulfilled; but that when these conditions are fulfilled, the three non-utilitarian theories are equivalent, no one being more general than the others. Each one is therefore deducible from either of the others, and each one implies the existence of an index function which corresponds to the classical "utility."

This synthesis is important, since non-mathematical economists have tended to believe that one or other of the theories bears the Imprimatur of the mathematicians. The choice between the theories must now be made on non-mathematical grounds; and perhaps especially on the closeness of their fundamental axioms to observed economic life, and their ease of verbal exposition. The utility theory remains the simplest to explain, but can be rejected because of its axiom "The consumer is able to measure every budget alternative in terms of utility." The balance between the other theories seems very even.

The second pamphlet gives a rigorous development of the theory of indifference maps, of interest mainly to the experts, who will appreciate the completeness of the exposition of demand theory provided. Part III passes from the theory of individual demand to that of market demand, and then proceeds to derive certain properties of price- and income-elasticities. Most of these are already known, but it is valuable to have them brought together in a systematic manner. An appendix inquires how far elasticities found from budget or time-series data will comply with the inter-relations which pure theory shows to be necessary. Unfortunately, at this point results are quoted without proof from a paper of Wold's in Swedish. This apparently shows that the results obtained from a linear regression analysis will be self-contradictory unless a simple regression with demand as the dependent variable is taken. The simplest method remains better than its more specialised rivals.

The three parts bristle with Sections, Remarks, Theorems, Lemmas, Corollaries and Equations, all neatly numbered; and in the later stages there are far too many references back to earlier results for the reader to be comfortable. But, though Wold may not provide the experts with many surprises, he has made a valuable attempt to clear the mind of the ordinary economist of misconceptions on an important matter.

CHARLES F. CARTER

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Design of Accounts. By F. SEWELL BRAY and H. BASIL SHEASBY. (Oxford University Press, for the Incorporated Accountants' Research Committee, 1944. Pp. viii + 200. 12*s.* 6*d.*)

THIS is a forward-looking book which reflects credit alike on its authors and on the Society of Incorporated Accountants and Auditors for whose Research Committee it was published. It is largely composed of specimen forms of accounts and balance-sheets for different types of economic entity designed to satisfy the principles set out in the first chapter. These are mainly directed to facilitating the interpretation of accounting material. The authors bring out the public interest in well-designed accounting records and commend the view "that the control of business enterprises conducted in the form of public companies requires the publication of adequate and intelligible accounts and that this is but one return for the privilege of limited liability." They discern a relatively uniform basis of design common to all financial accounts without countenancing the imposition of a rigid form, and they stress the need to bring accounts as near to truth as possible without minimising the practical difficulties of laying down objective criteria in respect of valuations and the like.

The principles of design are summarised as follows. A financial statement should be (*a*) clear, (*b*) arranged in groups under headings, (*c*) unambiguous, (*d*) useful in facilitating comparisons and (*e*) in compliance with statutory requirements. These are principles with which all economists will agree, and, as can be seen from the specimen accounts of this book, our knowledge of economic structure and change would be enormously increased if accounts were habitually kept and published on the lines laid down by the authors.

From the standpoint of public interest I would like to suggest two further principles which may go beyond what is acceptable to many members of the accounting profession, but ought, I feel sure, to be kept in mind by all accountants interested in the wider usefulness of their labours. My first additional principle is that accounts should contain a certain minimum of information necessary to enable basic economic measures to be constructed from them; my second is that as far as possible accounts should reflect the transactions of the economic entity in question with each of the other principal sectors of the economic system in which it is situated.

My reason for introducing these additional principles arises from experience in estimating national income and expenditure. Stress is rightly laid nowadays on the interrelatedness of different

national aggregates such as private outlay, national income and gross national product, and the most satisfactory way both of ensuring consistency of definition and of expounding the connection between the different totals is to set up an accounting framework for the whole system, to develop what Hicks has termed social accounting. This involves deciding what accounting entities shall be distinguished, what types of account they shall keep, and what types of transaction shall be kept separate. In putting the figures into such a framework use must be made of innumerable statistical and financial sources. Accounting material as it is made available at present can rarely be used except in certain cases, such as public utilities where detailed records on a common basis, at least for different types of utility, are required to be published by law. Accountants can greatly assist economists and economic statisticians by putting the weight of their authority behind the demand for the publication of more complete and more precisely defined accounting records.

In their discussion of the interpretation of accounts the authors concern themselves mainly with a description of accounting ratios such as the ratio of net income to capital. While the general object of such calculations is clear, it seems likely that they would provide only an approximate guide, since they involve a very simple relationship between two magnitudes, and would throw little or no light on the causes of observed changes. I am reminded, with some amusement, of an incident some years ago, when I was being shown the uses of different calculating machines by a mathematical statistician. "As an economist," he said, "you will be interested, apart from addition, in the calculation of percentages. Miss Smith, show our visitor how well this machine is adapted to such calculations." No doubt when putting over a new idea it is well to begin at the beginning, and no doubt ratios are useful, but it would be surprising if one could get very far with them in the interpretation problems with which the authors are concerned, any more than one can in the case of similar problems studied by economists. An interesting example of the next step in investigating this borderland of accountancy, economics and statistics is provided by Mr. Lyle's recent application of statistical methods to accounting data in his *Regression Analysis of Production Costs and Factory Operations*. It would also be of interest to see an empirical study into the reliability of simple ratios for the purposes for which they are used. The authors stress the caution that is needed in drawing valid conclusions.

Attention must be drawn to a more recent article in *Accountancy* (August 1945) by the two authors setting out a form of balance-sheet and accounts which meet the recommendations of the Cohen Committee on Company Law Amendment. The speed with which this appeared after the publication of the Committee's Report compares very favourably with the regrettable sloth of the reviewer.

RICHARD STONE

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Change No. 6. Britain and Her Birth-Rate. An Advertising Service Guild Report Conducted by Mass-Observation. (London: John Murray, 1945. Pp. 244. 21*s.*)

POPULATION experts have provided numerous statistics and theories about the cause and cure of Britain's falling birth-rate. It has remained for Mass-Observation to go to the root of the matter and seek information from women themselves—the mothers and potential mothers who will decide within broad limits which way the population trends are to go.

Britain and Her Birth-Rate marks a departure from previous Mass-Observation Reports, which aimed simply at collecting and collating representative opinions. "The angle of approach," the authors admit, "is frankly partisan. Mass-Observation has lined up with those who do not want the English people to disappear."

As protagonists of a rising birth-rate, the authors devote the early section of their Report to a re-statement of population statistics, reviewing what is happening now, and growing a little hysterical in prophesying what may happen in the future. They seem to consider that unless the past high reproductive rate can be recovered and maintained, there will be no hope of arresting the declining birth-rate and stabilising it at a more modest figure.

The Report is certainly one of the most important that Mass-Observation has undertaken. When the book gets down to interviews with mothers, and analysis of all the reasons they themselves give for limiting their families, it becomes intensely interesting, and so informative that no student of the population problem can afford to overlook it.

Perhaps the most frequently recurring opinion expressed by mothers is their wish to do well by their children—better, in fact, than their parents were able to do—and the certain conviction that the more children there are in the family, the less chance

there will be for those already born. Older women who have reared a large family seem united in advising their daughters to restrict the number of their own offspring, while at the same time, some of them at any rate, boastfully pride themselves on having brought up so many on so little—an achievement which they feel few modern women will have to their credit.

Some of the problems presented seem extremely difficult to solve. Women find themselves quite literally enslaved by the care of their homes and even two or three children, with never an hour of freedom or an opportunity of social relaxation with their husbands. Better housing, higher incomes, wider educational opportunities, and greater security would undoubtedly ease the anxiety of women when they contemplate additions to their families; but none of these things can lighten the burden imposed upon a mother who has the entire care of her children without the advantage of being able to leave the young ones with someone else for so much as an hour. Says one mother:

> "Two's enough for the present, thanks. For one thing I hardly get time to put my feet up from when I get up at six-thirty till after the kids are in bed at seven. It's just run, run, run—and the washing!"

Young housewives referred frequently to their fear that they would become less attractive to their husbands because they could not find time to keep themselves well groomed, and because the daily harassment of the domestic scene was making them ill-tempered.

The evidence culled from the younger housewives makes it abundantly clear that the awakening of women which has inspired a desire not only to have a share in life's social pleasures, but to participate in activities outside their homes, has been an influential factor in the limitation of families. Though the majority of wives desire to have a family, they are inclined to stop after the first one or two children, when they learn how completely the rearing of children absorbs the time and energy of the mother and cuts her off from all outside interests. Let some of the mothers speak for themselves:

> "There will be no more children [after the first two]. At least not under present social conditions. Reasons: The impossibility of my husband and I going anywhere together. Excluding our summer holidays . . . we have only been out *once* together in eight and a half years . . . the impossibility of attending evening classes. . . . Women's Institute meetings have to be left at half-time to get home at the same time as the children . . . as for the theatre, I've forgotten what that's like."

> "This feeling of being 'tied' is universal and universally resented by mothers I know. It's not a case of being all out for a good time—only 'all work and no play' for mothers."

> "Neither my husband or I mind the work, but we do mind these constant separations and have decided that there will be no more unless parking places are instituted for children to be left in safety."

Although knowledge of contraceptives is, as Mass-Observation points out, far from being universal, those women who have learned how to limit their families are apparently determined not to accept the unremitting toil involved in rearing many children. Any attempt, the authors warn, to forbid the practice of contraception would be folly, since the only effective remedy lies in a change of heart among married couples which will promote the *desire* for more children. Large families to-day are considered old-fashioned at best, at worst somehow indecent. (Several women mentioned that the Queen had only two children almost in the same breath as they said *they* couldn't afford more.)

Pride in large families must somehow be restored, and the exacting toil now attached to child-rearing must be relieved before the population trends can be made to move upward.

LELLA SECOR FLORENCE

Birmingham.

The Social Problems of an Industrial Civilization. By ELTON MAYO. (Harvard University: Division of Research, Graduate School of Business Administration, 1945. Pp. xvii + 150. $2.50.)

PROFESSOR MAYO is in deadly earnest about the problems he discusses, and it is clear how they came to excite his attention. The various studies made by the members of the Harvard Business School, in particular the Western Electric studies, brought out the great significance of the group in the life and actions of the individual worker. When, for example, individual workers felt themselves part of a team their productivity increased, and their personal outlook and their ability to collaborate changed for the better. Placing this fact in a wider context, Professor Mayo draws attention to the disruptive effect on social relationships of the great pace of modern technical and industrial development. Instead of the solid traditional social life of the agricultural communities, with change taking place slowly over a period, industry and occupations now change in importance almost overnight. We have moved from an established to an adaptive society—a society which demands much greater ability on the part of the individual to adapt himself to new circumstances and new relations with other people. Professor Mayo sees this ability to adapt oneself to a changing industrial and social environment as the most important feature

making for ordered and happy life; indeed, necessary if this civilisation is to survive. Yet, Mayo argues, we are giving little attention to this point in our schools and Universities. "Students are taught logical and lucid expression; they are not taught . . . social skill. . . ." "Social skill shows itself as a capacity to receive communications from others and to respond to the attitudes and ideas of others in such fashion as to promote congenial participation in a common task." Professor Mayo agrees that it is not easy to teach social skill and more attention should be given to this point: he sees the interviewing process as an important aid. He believes that "social study should begin with a careful observation of what may be termed communication; that is, the capacity of an individual to communicate his feelings and ideas to another, the capacity of groups to communicate effectively and intimately with each other."

Put in simpler words, Professor Mayo is saying that the world would be a much better place if everybody got on with everybody else and the various groups always reconciled their interests. Rapid industrialisation and technical change undoubtedly complicate and disrupt the lives of individuals, but by no means all the social misfits or problem cases have an industrial origin. Insufficient account is taken of the improved aids to getting on with each other, for industrialisation brings ease of communication and standardisation of language and ideas. The G.I. brides will probably find it much easier to get on with the natives of the United States than did the early Pilgrim Fathers.

During the course of the book Professor Mayo has a deal to say about the present state of the social sciences. He complains, quite rightly, of the great lack of realistic (he calls it clinical) research; of the imposing façades of general principles and social philosophies erected with insufficient basic field-work. He devotes a substantial part of the book, and perhaps the most interesting part, to an exposition of the "clinical" methods used by himself and his colleagues, and shows the kind of results which can be obtained. When dealing with particular branches of the social sciences one would expect him to devote most of his attention and criticism to individual and social psychology and sociology, as being most bound up with his general thesis. Instead he concentrates almost wholly on economic theory, with political theory next on the list. And all because, in his view, economic and political theory as at present taught lead to what he calls the rabble hypothesis—"We have an economics that postulates a disorganized rabble of individuals competing for scarce goods;

and a politics that postulates a 'community of individuals' ruled by a sovereign State."

It would perhaps be more charitable to draw a veil over this aspect of the book. One example will be sufficient: he is constantly confusing scarce means in the economic sense with scarcity in the famine sense. It is distressing that an individual so eminent in his own particular field, and with a contribution to make to the social sciences in general, should show such little understanding of the ideas and developments in other fields. Clearly we need far more "communication" between people working in different branches of the social sciences.

D. N. CHESTER

Oxford.

A History of Banking Theory in Great Britain and the United States. By LLOYD W. MINTS. (Chicago: University of Chicago Press, 1945. Pp. 319. 20*s*.)

MR. MINTS has explored an interesting and comparatively unfamiliar by-way in the history of economic thought. Most of the numerous works on the development of monetary theory are concerned chiefly with the problems which lie at the root of the subject, the connection between the quantity of money and prices, business activity, employment and the foreign exchanges. Mr. Mints, working in a narrower and more technical field, deals with specifically banking problems: Does a bank create credit or merely re-lend savings? What assets are most suitable for a bank to hold? Should it confine its lending to short-term commercial loans, and will this be a safeguard against the over-expansion of credit? These questions, together with the relative merits of competition and monopoly, free enterprise and State control in banking, form the substance of the book. Particular stress is laid on what the author calls "the real bills doctrine," the claim that a bank should lend wholly or mainly by the discount of bills arising out of bona fide commercial transactions He vigorously attacks this view, and has no difficulty in showing the fallacy of many of the arguments by which it has been supported.

On these topics Mr. Mints has collected the opinions of a huge number of writers, from Potter, Maddison and Child to Keynes, Robertson and Hicks. (The bibliography of primary sources contains references to well over four hundred authors.) Many of the references are necessarily brief—so brief as to amount to little more than a catalogue, but the views of the more important

writers are usually fully and carefully stated. The monumental industry which has gone into the collection of this material is the great merit of the book.

Unfortunately, it suffers from three defects, which have seriously impaired its value to this reviewer. First is an unduly rigid separation between banking and monetary theory. This is apparent, for example, in the discussion of the "real bills doctrine." The author quotes many statements to the effect that by confining discounts to "real bills" the banks will avoid over-issue; this at once raises the question of what is over-issue, and this again the more fundamental one of the causal connection between changes in the quantity of money and of prices. Mr. Mints discusses the former at some length, the latter hardly at all; hence, though his criticism is very trenchant as far as it goes, it seems lacking in depth.

The second defect is one of historical method. One may approach the history of economic thought by studying the background, both personal and general, of one's writers, and using the imagination in an effort to follow the working of their minds as they grappled with the problems of their day. Alternatively, one may approach the past from the standpoint of the present, tracing the genesis and growth of modern ideas in former times. The first is the more sympathetic method, and, indeed, the only one which can lead to a really intimate knowledge and understanding of a great writer; on the other hand, the student who concentrates exclusively on this, and fails to relate his results to the general development of thought, will find his work of only antiquarian interest. It takes a very cunning alchemy to combine the two elements in just the right proportions, and Mr. Mints does not attempt the task. His work is an extreme example of our second method of approach. He has a set of questions, to which he knows the answers, and his four hundred victims are made to undergo a competitive examination, after which they receive their due measure of praise for "correct" and blame for "incorrect" replies. The marks are generally very low, and the examiner's reports extremely acid, but one wonders if this is not due as much to the nature of the test as to the incompetence of the examinees.

Since he uses this method of approach, we might expect Mr. Mints to present us somewhere with his own model answers, a clear and consistent body of doctrine against which to expose the confusions and contradictions of his predecessors. The statements of his own views are, however, fragmentary and un-

convincing. We gather that he is an adherent of the quantity theory of money, though in a somewhat refined form, for he cites, apparently with approval, the statement that anything which can be substituted for money in cash balances will increase the velocity of circulation of hand-to-hand currency and deposits, and so raise prices, even though it may not circulate as a means of payment (p. 257). He believes that the control of the trade cycle is primarily a matter of monetary policy (pp. 12, 275, 280). He has little faith in the rate of interest as an influence on economic activity, but how a change in the quantity of money can affect activity and prices other than through the rate of interest he gives no hint. His suggestions for banking reform, very briefly made, include the elimination of "the major portion" of short-term debt, both commercial and Government, the abolition of fractional reserve banking or "if this is impractical" the restriction of bank assets to long-term debts and equities (p. 222).

To sum up, a great deal of excellent preliminary work has failed to produce a really satisfactory book, owing to poor historical method and a defective theoretical background.

E. VICTOR MORGAN

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The Economic Mind in American Civilization, 1606–1865. By JOSEPH DORFMAN. (New York: Viking Press, 1946. Two vols. Pp. xii + 987 + lv. $7.50.)

THESE are the first two volumes of what promises to be a most elaborate and valuable history of the growth of economic doctrines and the course of economic controversies in America. It is not a "history of economic thought" of the standard type. First of all, Professor Dorfman is less concerned with the elegance or cogency of argument of the writers he discusses than with their representative character. There are here many dull, far from acute, often highly tendencious and dishonest controversialists who yet fully earn their place, since their historical rôle casts light on the economic problems of the age and on the public opinion of the "educated" classes. Secondly, Professor Dorfman is concerned with political economy, not with economics in its modern technical sense. Many of his most interesting and important writers devoted their efforts to political as much as to purely economic questions. It was, in fact, impossible to separate the two; most of the concrete problems from which the theoretical

discussions arose were highly political in character; land policy, control of the currency, control of wages by law, the old colonial system, the powers of the new federal government over banking and tariffs, " internal improvements," slavery—all of these were problems in political economy. The tracts and treatises that poured out on such topics were no more exercises in academic objectivity than was Hamilton's *Report on Manufactures*, or *The Federalist*, or a judgment of John Marshall or Roger Taney. This occasional character does not detract from the interest of the voluminous literature which Professor Dorfman has examined with such prodigious industry and such a high degree of objectivity. But his writers, even the ablest of them, were in general not attempting to do what Adam Smith and his successors tried to do. Indeed, one might say especially the ablest of them. The academic economists of the colleges were inhibited by the great names first of Adam Smith (or Say), then of Ricardo, then, though less decisively, of Mill. They were popularisers and adapters, and where they wrote semi-heretical formal treatises like that of the younger Carey, they were concerned to refute or correct the errors of the great transatlantic masters. These they followed closely; indeed, one of the discoveries of this book is the immense prestige of Ricardo. His doctrine of rent seemed to have special applicability to the problems of American land policy, and some speculators tried to make fortunes by the use of Ricardian principles. They usually failed, and the successful land speculators, John Jacob Astor, Peter Smith and the rest, seem to have been mere empirics.

Yet there were interesting theorists among the propagandists, notably Jacob Cardozo and John Rae. But, in general, the current political or social problems imposed topics on the pamphleteers. And in the colonial period the controversies had, in the nature of things, to be limited in scope, since the final decision was not in the hands of the public immediately addressed. That public, Professor Dorfman points out, was very limited; the merchants, the gentry, the nascent professional classes. We are not to be deceived by names like " Agricola "; farmers and workmen for controversial purposes were, in real life, merchants, lawyers and divines, and the controversies were controversies within the same social class. But they were interesting controversies, all the same. Imperial policy had to be altered or evaded, the growing colonial " interest " unified and (as far as was possible) the class structure preserved. That last battle was being fought even in the nineteenth century, but obviously, by

Jackson's time, it was a lost cause. But Professor Dorfman does not make it quite clear how successful or unsuccessful were the efforts of the ruling class in New England to control wages, keep the lower orders in their place and, in general, make the new settlements fit for John Winthrop and the rest to live in. To do that would be to write a history of the American economy, but some brief statement of the case would have been welcome. At the other end of the book the treatment of currency and other questions during the Civil War is not very full. Nascent American industrial and finance capitalism had surely more to say for itself? There can be few authors of any merit, or even of interesting demerit, whom Professor Dorfman has not tracked down. But in the nineteenth century, regular periodicals, the *North American Review* and other imitators of the English and French reviews, did a good deal to form the public mind; perhaps some attention should have been paid to them as well as to authors. But it was a stroke of genius to investigate the economic ideas of the great McGuffey, the author of the most popular text-books in American history.

Inevitably, there are passages so compressed that it is hard to follow the argument, but Professor Dorfman has been very successful in making his authors intelligible—more intelligible, one suspects, than some of them are in their own works. Inevitably, too, the old problem of "influences" comes up. For example, the reader might exaggerate the direct influence of Thomas Reid on President Witherspoon. As far as Witherspoon was exposed to personal influence, it was to Adam Smith's, for Witherspoon was Minister of Paisley and Moderator of the Synod of Glasgow and Ayr while Smith was still at Glasgow. His successor, Reid, just overlapped with the last years of Witherspoon's residence in Scotland. In no direct sense was Witherspoon a pupil of either Smith or Reid. Again, the not very expert reader, forgetting that the seventeenth century was an epoch of very rapid change, might think of Sir William Petty and Sir Edwin Sandys as sharing in much the same climate of opinion. But this very ambitious effort has not o'erleaped itself. The continuation should be at least equally interesting and valuable.

D. W. BROGAN

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Financing American Prosperity: A Symposium of Economists. Edited by PAUL T. HOMAN and FRITZ MACHLUP. (New York: The Twentieth Century Fund, 1945. Pp. xi + 508. $3.00.)

SIX highly selected candidates (Anderson, Clark, Ellis, Hansen, Slichter and Williams), each a Professor of Economics, were set a paper on the future of business in the U.S.A. The questions are reproduced in Professor Homan's Introduction, and although no choice was offered, a considerable latitude in interpretation was allowed. The result is this collection of 60- to 70-page essays, expressing opinions varying from Professor Anderson's rugged reaffirmation of the extreme classical position that supply creates its own demand and that the best Government plan is that which plans least, to Professor Hansen's outright statement of the contrary opinion. For those readers who are intimidated by 400 closely printed, well-footnoted pages, there is Professor Machlup's excellent concluding Summary, in which he quotes chapter and verse from each essayist. He has also done us the additional service of appending a synoptic table giving the contributors' opinions on 150 or more detailed economic policies, classed under the heads of Fiscal Policy, Taxation, Credit Policy, Price Control and Rationing, Anti-Monopoly Policy, Wage Policy, Social Security and Life Insurance, Housing, Research and Patents, Commercial Policy, and International Finance.

With the one exception of Professor Anderson, who regards the late Lord Keynes as "a dangerously unsound thinker," the contributors all accept the general series of propositions which, in Great Britain at least, are derived from *The General Theory of Employment, Interest and Money*. Each contributor writes with two disturbing facts in mind—first, that conditions of boom had already begun to manifest themselves (in the U.S.A.) as early as 1940, although there were in that year no fewer than 6 million unemployed by one count and 8·6 by another; and second, that the expansion of U.S. production during the War to double its previous peace-time maximum was almost wholly dependant upon the increase of federal expenditure. The essayists had to consider what would take the place of this vast outlay in the immediate future, and how the U.S. economy could best be stabilised in the long period at a satisfactorily high level of income and employment. Some contributors open with a preliminary definition of "full employment"—a float of 3 million unemployed seems to be the accepted minimum; and Professors Clark and

Williams both think that "full employment" can be purchased at too high a cost, the latter in particular expressing a doubt as to whether Sir William Beveridge's society can really be "free"!

Discussion of the probable condition of U.S. business during the transition period from War to Peace really boils down to prediction—how large is the demand for consumption and investment goods postponed by the War; and how liquid the assets in which it has been preserved. The contributors, though hardly unanimous on the means, yet seem generally satisfied both that an adequate demand has accumulated, and that it can be released on terms which would avoid danger of serious inflation. The question of America's industrial stability in the long run affords more scope for argument, and here there is naturally the greater difference of opinion. Convinced that the maintenance of private enterprise should be a foundation of U.S. economic policy, the six essayists are concerned with ways of enabling private enterprise to sustain high employment and income without systematic support from Government expenditure. Given the degrees of freedom severally suggested—from taxation which weighs heavily on new and risky enterprise (the existing tax system comes in for some really severe criticism on this score), from the burden of a rising public debt, from monopolist restrictions, from wage increases leading to distorted cost-price structures and so on—there is a general consensus that private enterprise, possibly supported by a stimulation of consumption, will be equal to the task of producing and disposing of a gross national product at least twice as great as that realised before the War. The contributors (Professor Anderson excepted) admit the case for a cyclical increase of Government expenditure in times of depression; but, among the six, Professor Hansen alone considers that the investment of the peoples' savings is going to present an "inescapable" problem in the long run, and only he foresees the need for a continuous programme of public investment to maintain a steady expansion of the private economy. The others fear, with varying degrees of alarm, lest this policy, even if effective, should end in private enterprise being squeezed out by public, or caused to founder under the load of taxation required for the service of the resulting debt. On trade policy, and on the future place of the United States in the world, there is a general measure of agreement. To British eyes at least, they may seem not to appreciate enough the danger that in practice dollars may be short; but they are at one in urging lower American tariffs and

larger American loans, advice which U.S. economists have for years been giving to unresponsive Congressmen!

The subject is really too wide and the space at the disposal of each contributor too limited to allow of an adequate treatment of the questions. The essays tend to become expressions of opinion, admirable as a means of learning what each contributor is thinking, but not well designed as a vehicle of cogent and convincing argument. For the European, the collection has the additional disadvantage that he gets no clear indication of the relative volume of support each authority commands. Not indeed until the thirty-seventh footnote of Professor Machlup's concluding Summary do we learn, for example, that Professor Hansen enjoys on this important subject the widest following among American economists.

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Price and Related Controls in the United States. By SEYMOUR E. HARRIS. (New York: McGraw Hill Book Co., 1945. Pp. xx + 392. $4.00.)

Price Control and Business. By GEORGE KATONA. (Bloomington, Ind.: The Principia Press (for the Cowles Commission), 1945. Pp. xii + 392. $3.00.)

PRICE control in the United States, a country with income payments to individuals of the order of $100 billion in 1942, an "inflationary gap" then estimated at $17 billion, probably the greatest diversity of consumer products ever known, and a public far from the war fronts and traditionally opposed to Government controls, is a fascinating subject. These two books deal with it on very different scales and with different degrees of success. Dr. Seymour Harris attempts to cover the whole field, and perhaps inevitably his book is more a collection of interesting data than a synthesis. Mr. Katona's book is based on a series of prepared interviews with business men in the Chicago area between 1942 and 1944, in which they were asked about their actual experiences with price control. It is a small but valuable contribution not only to this subject, but to the growing literature on business behaviour.

The outstanding experience of American experience in this field is the light it throws on the possibilities of a general "freeze"

of prices. On April 28, 1942, under the General Maximum Price Regulation (GMPR), "current prices" over the greater part of the American civilian economy were made legal maxima by a single administrative Act. The hands of the Price Administrator were somewhat tied, in that he was specifically prohibited from imposing a maximum price on agricultural products lower than 110% of "parity," and had no authority over wages.

Dr. Harris is critical of GMPR because the conditions for its success (or for that of any general freeze) were not present. His main arguments can be summarised as follows:

(1) As a result of the failure (by the War Labour Board, not the OPA) to control wages adequately, the excess of disposable income over value of consumer goods at current prices caused an upward pressure on prices too great to be restrained by price control. "Where the inflationary gap is $10 billion, there is some hope that price control will do a reasonably good job; but where the inflationary gap is $50 billion, the possibility of even a moderate success is considerably less" (p. 46).

(2) Partial price control increases the inflationary pressure on the uncontrolled sector of prices: thus a freeze is more likely to be successful the wider its range. GMPR did not cover agricultural products, services, books and papers, amusements, military supplies, nor imports. "The widespread use of exemptions of various kinds tends to restrict the effectiveness of price control" (p. 24).

(3) In so far as the price control authority is unable to control all prices, the maintenance of an inflexible ceiling requires the use of subsidies. Chapter XVIII is very interesting on subsidies generally. The all-pervading controls in Great Britain have somewhat obscured the economics of the subsidy, which has been generally assumed to be anti-inflationary. Not so in the U.S., where it was a major issue between the Administration and an unsympathetic Congress. Dr. Harris states the issues and gives the conditions for an effective use of subsidies. He concludes: "Subsidies are a *sine qua non* for stabilization of the cost of living; when used in conjunction with proper wage, farm, and fiscal policies they can ensure stable living costs and wage rates" (p. 224).

Why, then, if the essential conditions for its success were not present, was the general "freeze" method employed? The answer is that there was no alternative practicable policy. There was no time for selective price control; GMPR at one swoop provided legal maximum prices for 8 million commodities. It

was a price stop pending future action, and has been gradually replaced by selective price control, but is still largely operative in those sectors of the economy where price differentiation is greatest. The freeze technique was most effective for rents, where the OPA considers that there has been no increase since 1942. Dr. Harris instances the relative homogeneity of the product, the absence of "new products," and the knowledge of the market both by buyers and sellers as conditions favourable to the freeze.

On the whole, the book gives the impression that it was written in a hurry, and that the author (at one time Director of the Office of Import–Export Price Control in the OPA) was too close to the mass of material. The book is neither an integrated picture for the layman, nor sufficiently detached to add very much to the understanding of those already familiar with the problems of theory or practice.

Mr. Katona was in charge of a survey carried out for a private Committee on Price Control and Rationing, using the facilities and personnel of the Cowles Commission at the University of Chicago. The method employed was to cross-examine business men in a selected field about their own experience of and reactions to price regulation.

The results throw a good deal of light on some of the problems glanced at by Dr. Harris. The underlying pressure of more money than goods caused all kinds of evasions of the regulations, from illegal price increases, quality deterioration (particularly difficult to control in America), shifts in merchandise to grades with larger profit margins, to the familiar devices of imposing conditions of sale (only the good customer gets the scarce goods). Chapter XI summarises this part of the inquiries for the whole of the two sample inquiries, in each case covering some 450 interviews. 29% adhered strictly to the regulations, 37% made indirect and 34% direct price increases. Adherence was greatest in the group of men's wear retailers, and least for liquor stores.

Among a variety of other topics, there are interesting chapters on the relative impact of control on large and small firms (the smaller firms could not do the clerical work involved in accurate compliance); on the effect of price control on demand (as long as prices are expected to remain stable, the propensity to save rises with rising incomes); and on the attitude of business men to control (as time went on there was more understanding of, and support for, the OPA).

Chapter XXIII, on interviewing as a tool of economic research, concludes that this method is important (as the book itself

shows), particularly in connection with the motives behind business decisions, a field in which economists are at present woefully ignorant. It is also made clear that experience of the technique is essential. "We failed in gathering evidence about several important issues because we were not aware of their significance when we embarked on the survey concerned" (p. 212). Oxford economists had the same experience in their Research Group just before the war, and will note with pleasure the tribute paid by Mr. Katona to the guidance of Professor Marschak, who worked with the Group.

On the whole, both books confirm the view that price control in America was astonishingly successful—much more so than most people expected would be possible with the instruments available. The atmosphere of patriotism is, of course, very important, and it remains to be seen what will happen to OPA, now so much under fire. It is to be hoped that there will be other works on the subject.

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Labor Policy of the Federal Government. By HAROLD W. METZ. (Washington, D.C.: Brookings Institution. 1945. Pp. 284. $2.50).

ALTHOUGH a Bureau of Labor in the Department of the Interior of the U.S.A. was created in 1884 and a separate Department of Labor with a Secretary of Cabinet rank has existed since 1913, the real growth of Federal labour legislation dates only from 1933 when the National Industrial Recovery Act was passed by Congress. That Act, like many previous attempts by Congress at labour legislation, was held unconstitutional. It was soon succeeded, however, by the National Labor Relations Act, the Social Security Act, the Fair Labor Standards Act and other laws which have survived the tests of constitutionality as interpreted by a differently constituted Supreme Court.

The devices—depending mainly on the power of Congress to regulate inter-State commerce—by which the Federal Government has partially overcome the obstacles to labour legislation of national application, the multiplicity of Governmental agencies for the regulation of labour conditions which it has seen fit to create, the lack of co-ordination between Federal and State labour legislation, the varying decisions of Governmental agencies

from time to time as their membership changes, and the conflict of these decisions with those of Federal and State Courts present a confusing picture from which, as the author of this book himself states, it is difficult to deduce a coherent and integrated system.

The book does not deal with social security, which may in the future play a greater part in the labour policy of the Federal Government, now that both sections of the organised labour movement support legislation in this field. It is explained, however, that the omission of so important an aspect of labour policy is due to the fact that the same publishers are shortly bringing out a separate study of social security. The author makes no attempt either to explain why, in a country where over 8 million people are engaged in agriculture, so little of labour legislation is applied to this activity. Indeed, his only references to agriculture are to note and explain the scope of its exclusion from various statutes. Difficulties of enforcement are a common excuse in many countries for omission of agriculture from labour legislation, but possibly in the U.S.A. not the least of the reasons is the traditional hostility of certain States to anything which will increase agricultural costs, and the consequent difficulty which would have been experienced in passing through the Senate, where all States have equal representation, any such legislation which did not exempt agriculture.

The major objective of the labour policy of the Federal Government has, as is borne out by statements of Government spokesmen which are quoted, been to secure for the workers a larger income with shorter hours of work, and was originally conceived as an anti-depression measure. One of the main methods by which the Federal Government has sought to achieve that objective has been to increase the bargaining power of the workers by encouraging collective bargaining and, indeed, imposing it upon employers as a statutory duty. The complications to which this has led—the difficulty, for example, of deciding from an employer's overt actions whether the state of mind in which he negotiates with trade unions constitutes bargaining *in good faith*—are a clear demonstration of the superiority of the voluntary acceptance of collective bargaining as achieved in this country. The reasons for the failure of the voluntary method in the U.S.A. are obscure, and are not discussed in this book. One answer is perhaps to be found in the failure of the growth of trade unions there to be followed, as it was here, by the growth of employers' associations, the main purpose of which, originally to resist the growth of trade unions, has become to bargain collectively

with them. Collective bargaining in the U.S.A. still means in most cases bargaining between a trade union and an individual employer or, at most, a local group of employers, and only rarely between a trade union and the employers in an industry as a whole.

Subject to the omissions which have been noted, this book will be of considerable assistance to those who seek a better knowledge of the principal Federal labour legislation and of its interpretation by Governmental agencies and the Courts. Possibly too much emphasis is laid on the activities of the National War Labor Board, which are of a passing nature, and a divergence from the main current of Government policy. The method adopted in the book of analysis under a variety of subject-headings leads to constant repetition which may be inevitable; when, however, almost identical passages occur in successive paragraphs which deal with the same-subject matter, one can only conclude that this is the result of inadvertence. A few misprints are singularly unfortunate, in that they reverse the sense of the passage entirely, as, for example, when it is stated that social security legislation was in 1937 held unconstitutional in a case in which in fact its constitutionality was upheld.

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Agriculture in an Unstable Economy. By THEODORE W. SCHULTZ. (New York: McGraw-Hill, 1945. Pp. xix + 272. $2.75.)

THIS is an admirable book, in which modern economic theory is brought to bear on the past and present facts of American agriculture and a gallant attempt made to forecast numerically future trends. Since the factual material is American, the book will be of the greatest value to American readers, economists and agriculturists and, perhaps above all, those concerned in framing agricultural policy. But its usefulness is by no means confined to those interested in American economic and agricultural problems; much of the analysis is equally applicable to any industrialised country, and certainly to Great Britain.

Professor Schultz analyses the relations between agriculture and the rest of the economic activities of the nation, in order, as he says, to lay the foundations for a national policy for agriculture, which he proceeds to outline in his concluding sections. He brings out that the basic causes of the farm problem, the low earnings of most farm people and the great instability of income

from farming, lie less within agriculture than elsewhere in the economy. A great part of the analysis is familiar, at any rate to economists. But no other book which I know puts it so clearly or cogently.

The argument is compressed, and cannot be adequately summarised in a review. Only a few of the salient points can be noted. Professor Schultz begins in Part I by analysing the outlook for American agriculture after the war. Agricultural production has increased by a third during the war, in spite of a decline of from 15% to 20% in the number of people employed in agriculture; in America, even more than in this country, farmers have been brought to realise the extent to which modern machinery can be substituted for labour, not only in crop but in livestock production, and not only on large farms and level land, and production costs reduced by mechanisation. These figures, and others which Professor Schultz gives in his second part, demonstrate the extent of under-productive employment in American agriculture before the war (Mrs. Robinson's "concealed unemployment") as unemployed industrial workers were forced back to the farms they had left to seek work in cities.

After the war, unless there is a pronounced inflation, farm prices are likely to recede sharply within one year or at the most two (Professor Schultz wrote before the recent food crisis). For agriculture will stay in full production and demand from overseas countries will fall; this will particularly affect cotton, which has remained in surplus supply throughout the war, and the other products entering world markets but now in short supply—fats and oils, wheat, rice, coffee and sugar. Professor Schultz expects the terms of exchange available to farm people to drop by one-fourth to one-third from the levels of 1944.

He proceeds, in Part II, to develop the fundamentals of the agricultural problem in an expanding and fluctuating economy. In an expanding economy, and one where the reproduction rate is considerably larger for the farm than for the non-farm population and where labour-saving devices are being introduced as rapidly in agriculture as in secondary and tertiary industries taken as a whole, only a very rapid increase in output (and hence income) outside agriculture will serve to maintain demand and secure a rapid enough movement of labour from agriculture to support reasonably prosperous farm incomes per head. For, as incomes rise, a smaller and smaller proportion of those incomes are spent on farm products (after allowing for more services in getting food-stuffs to consumers). If the income elasticity for farm pro-

ducts is ¼ (which Professor Schultz puts as the most probable figure), then, he estimates, the annual rate of increase in non-agricultural production must be 4–6% in the first two decades after the war, in order to make room for an expansion in agriculture of 2% or rather more a year, which he considers to be necessary if the old pre-war farm problem is to disappear. The discussion of the income elasticity of demand is summary; one would have liked a rather fuller analysis of this crucial fraction; but, whatever its level, provided (as is certain) it is substantially below 1, the nature of the problem, though not its extent, remains unchanged.

After a brief analysis of the effect of business fluctuations on agriculture, and of the probable movements of agricultural imports and exports, Professor Schultz proceeds to discuss Government policy for agriculture before and during the war, and to outline a desirable policy for the future. He is concerned to preserve the essentially competitive nature of agricultural production, and would have the Government step in to help determine the correct allocation of resources and to advance general welfare.

Put very briefly (far too briefly to do justice to the argument), his policy would be: first, to encourage the movement of labour from farms, develop mobility, education and greater leisure, and introduce and improve social services for the farm population; secondly, to counteract the instability of farm income, if possible by avoiding business depressions and developing farm technology to avoid fluctuations in yield, introducing crop insurance and storage of grain for animal feeds; and, as a second line of defence, by subsidising agricultural production if unemployment mounts and prices fall, to give returns equal to a percentage (perhaps 85%) of the price in the previous boom; thirdly, to avoid the type of production adjustment intended under the A.A.A. policy pre-war (which in any case was largely ineffective except for cotton, since, for the remaining crops, though acreage fell, production did not); but to help adjustment in specific types of listed cases; and, finally, to establish forward prices, announced in advance, designed to secure the socially desirable allocation of resources. Prices should not be the goal of policy, but a means to secure the right adjustments; especially, the doctrine of parity prices, related to levels before the last war, should be abandoned; conditions have changed so much that such prices are now entirely out of line with requirements.

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World Grain Review and Outlook, 1945. By HELEN C. FARNSWORTH and V. P. TIMOSHENKO, with a Statistical Appendix by ROSAMOND H. PEIRCE. (Stanford University: Food Research Institute, 1945. Pp. xi + 319. $3.00.)

THIS volume succeeds the Food Research Institute's monthly *Wheat Studies*, now discontinued. It provides an admirable survey, both world-wide and by principal countries, for food grains, especially wheat, and for feed grains. After a brief but useful summary of the last fifteen years, the authors analyse in detail supplies, trade, consumption for different purposes, prices, and administrative action for the crop year 1943–44, and give estimates of the outlook for the year 1944–45. The text contains some summary tables and a number of excellent charts. The main statistical picture is contained in sixty-five invaluable tables in an Appendix, which generally cover the years 1928 to 1943 or 1944.

The authors have taken such figures as were available when they wrote in late 1944, and have supplemented them with estimates derived from their long experience in interpreting such other indications of the facts as could be obtained. Inevitably, at a time when the war-time statistical black-out was only beginning to be broken, the statistical picture is incomplete for a number of countries. One may hope, therefore, since such volumes should be invaluable not only for current use but for reference, that any future numbers will summarise such information for earlier years as becomes currently available.

The authors wrote before the present food crisis developed; they expected, in the absence of crop failures, a fairly early re-emergence of wheat surpluses. But they emphasise two developments which, combined with the actual disastrous crop failures in a number of countries, have helped to produce the crisis. The first and most important was the abnormal feeding of wheat to live stock, mainly in the United States, where live stock numbers in 1943–44 attained a record and where unsuitably high prices for hogs relatively to grain encouraged heavy feeding per animal, but also in the other main exporting countries, so that in 1943–44 more wheat was used for animal feed, industrial uses and fuel than for human food in the four chief exporting countries taken together. The second was the failure to build up grain stocks sufficiently in India after the Bengal famine of 1943 (as a result of which famine, they estimate, over a million people died).

The concluding chapter discusses the long-term outlook, both

statistically and in the light of possible or probable national and international policies. This chapter should be carefully studied by all those interested in agricultural policy as a whole, as well as by those concerned with the grain outlook and grain policies.

Dr. Davis, in his Foreword, states that the issue of subsequent similar volumes will depend on the reception given to this book. It is very much to be hoped that this will become the first of a series; for the material that it contains is invaluable to many readers. He also asks for suggestions for future volumes. I have only two minor ones to make. First, an additional index by countries for the Statistical Appendix would be useful. Secondly, it is inconvenient, certainly for the British reader, to have the British Isles treated as one unit in the Appendix. The supply position differs for the United Kingdom and Eire, and the two countries are administered by different Governments; separate figures are desirable.

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University Education and Business. (Cambridge: University Press, 1945. Pp. viii + 77. 2*s*. 6*d*.)

JUST before the war the Cambridge University Appointments Board inquired into two questions—how well was the University equipping students who went into business, and were employers using such men as well as possible?

The inquiry is important, for 30% of Cambridge graduates went into business, rather less than half of them on the scientific and technical side. It is a pity that in this inquiry business was not defined and subdivided. The only classification is "commerce" and "scientific"—the latter largely chemists and engineers—though the more important distinction between administrative or technical jobs runs across these. The term "commerce" covers the City, administration in industry, or selling wine and spirits to one's old friends—employments which would seem to require widely differing capacities.

The evidence was compiled in three ways. Firms known to have employed Cambridge graduates were written to, and something over a third gave a considered reply. Graduates who had gone into business over the past years were asked their opinions, and it may be significant that less than a fifth of these were

sufficiently interested to reply. Finally, an analysis was made of the first jobs taken by those who graduated in 1937 and 1938.

From this last one can picture the men who go into commerce every year. Out of every hundred, four had a First Class Degree, though, rather surprisingly, twenty-one were Scholars or Exhibitioners. The fathers of forty had been in commerce themselves. Of the sixty-five who had taken a Tripos, thirty-three had switched Triposes. Seven had read only economics, though fifteen more had read economics and some other subject (most frequently Law). And on a rather arbitrary assessment of social and athletic activities the man who went into commerce was less distinguished than the future Civil Servant, ranked equally with the doctor and the schoolmaster, was more distinguished than the parson, soldier, or lawyer. Lowest were the scientists and engineers.

Why did the Cambridge graduate become a business man? Many of the forty whose fathers were in commerce may have been destined from birth to carry on the family business. How many went into business because they felt they could not pass the Civil Service Examination? How many went into business because they would be earning straightaway, because they did not want to teach, and could not afford the further years of being trained to become a doctor, a lawyer, or an architect? How many decided to go into business early in their academic career, for how many was it an unpalatable choice reached towards the end of their time at Cambridge?

There can be little doubt that the prospect of good money is important, but what was the result? What was the distribution of income ten or twenty years after leaving Cambridge for those in business (other than family business) as compared with Civil Service or the professions? All these fascinating questions may seem outside the sphere set down for this Committee, but greatly affect the conclusions reached.

Under a planned economy, the incipient czar or tycoon in business is likely to be supplanted by someone more like a Civil Servant, and the contacts between the two groups will be closer; but can the business 4% of Firsts cope with the Civil Service 20—25%? In any case, the future business man should be as well selected and as well trained as possible. The conclusion of the Report is that it would not be appropriate to create a School of Business Administration at Cambridge. The recent developments of the Industrial Staff College and of the proposed British Institute of Management both suggest that training for business men is better after some experience in business rather than as

part of a University course. But this does not make it less necessary that business should get its proper share of the best people—people who will be most successful and most happy in that sort of work.

What is the work which the business man should do? Even for the forty with fathers in commerce there was, I suspect, some mystery. For the rest, there seems to be no way of getting a clear picture of what the life of the business man is like. Economists have not helped. The Marshallian conception of business men at work is likely rather to deceive. The business man is traditionally inarticulate, and even the Cambridge graduate after twenty years (hard or soft?) finds it difficult and embarrassing to explain how he spends his day and justifies his supertax. It is suggested at various times in this Report that the potential candidate might spend some months, or perhaps a year, in business before making his choice and finishing his University training. As a background for the Economics Tripos such experience would be valuable, but it could rarely give any insight into the range of problems and personalities which can make business so fascinating.

This Report should be read by those who teach economics. Only a third of those who went into commerce read any economics (excluding any who read for the ordinary Degree). The arguments quoted in favour of a University education (in particular of a Cambridge education) are that it teaches one to think clearly and to see the difference between facts and opinion. But for the majority of commercial jobs economics can do this, and can add invaluable background as well. The business man will have to acquire some economic know-how sooner or later—why not at first? And it would be fascinating to know the converse—what proportion of those who read economics went into business and what did the rest do? The 1937–38 analysis could give an answer.

HUGH WEEKS

Bournville Works.

Beatrice Webb. By MARGARET COLE. (London: Longmans, Green & Co., 1945. Pp. 197. 10*s.* 6*d.*)

THIS is a fascinating study of one of the most interesting personalities of her time. It is brief, eminently readable, and inspired both by critical humour and by the affection which Beatrice Webb could not fail to command from any worthy younger person who came into contact with her. It is not,

of course, either a definitive life of Beatrice Webb or a definitive account of the Webb partnership and its achievements. The time for either of these things, as Mrs. Cole points out, has not come. Meanwhile, as a preparation for that, and on its own merits, what Mrs. Cole has written here deserves a hearty welcome.

Different readers, according to their own previous contacts with the Webbs, will find special interest and gain fresh light at different points of Mrs. Cole's narrative. One of the most interesting points to one reader at least is that emphasised at the beginning of Chapter VI, that when Beatrice married it was she who resigned her career—if only for a time—and not Sidney; she joined his circle of Fabian friends; he did not join her circle, some of whom unreasonably cast her off. But later the balance was redressed; in the immense, delightful gathering of June 1937 at Passfield noted on p. 183, Sidney appeared to have joined her family of innumerable Potter descendants; his own family was hardly in evidence at all.

Another interesting point well brought out by Mrs. Cole is Beatrice Webb's original dislike of the Soviet system. This made her later conversion to it all the more striking proof of her ageless freshness of mind. The conversion was made easier by the fact that her early objection to the Soviet system had been based on economic rather than on political grounds.

Yet another characteristic—of both partners—which must not be omitted in any account of either is magnanimity. The Webbs, as Mrs. Cole says, forgave completely the rather ill-natured, though amusing, picture of them in *The New Machiavelli*; I remember myself a walk with Beatrice round Beachy Head, at the time of the founding of the *New Statesman*, in which she dwelt with perfect good humour on H. G. Wells' description of her as "lacking in muliebrity." The Webbs forgave also all the hard things which the young Fabians, become Guild Socialists, said of them in the years after the First World War; Mrs. Cole's account of this is naturally peculiarly interesting and personal.

One thing demonstrated by this book is that the definitive study, when it comes, must deal with both partners together. Again and again, Mrs. Cole in writing of Beatrice has to break off to say that in what she is describing at the time—whether London Government, or the London School of Economics, or the Labour Government—it was Sidney rather than Beatrice who was the active partner. And when the story comes to something in which Beatrice was in the forefront—the Poor Law Commission of 1905–9—and did things which only a Commissioner could do,

Sidney was there as well. As Mrs. Cole succinctly puts it, the Minority Report of the Commission "which she sponsored and Sidney wrote in the country house of Sir Julius Wernher, although it had only four signatures, takes rank as one of the great State papers of the century."

Sidney and Beatrice Webb cannot be divided in biography, as they were not divided in life. Yet the human interest of their biography will lie largely in distinguishing their complementary gifts and characters. As one contribution to this future study of characters, I may recount my own first experience of the "joint interview" by the Webbs (which I did not find quite as devastating as Mrs. Cole describes it on p. 59). I was bidden to luncheon, at 41 Grosvenor Road, in my middle twenties, to talk about unemployment, and I made a remark about unemployment. Beatrice burst out into an eloquent harangue, refuting, flattening out and burying what I had said. At the end of it, to my astonished comfort, I heard Sidney piping out from his end of the table, "You are right in everything that you say, my dear, but there is just this in what Mr. Beveridge says"; there followed a masterly development of what I had tried to say, which Beatrice, of course, accepted—from Sidney. I believe that in that story lies perhaps one of the secrets of their joint achievement. She had a creative, positive, enthusiastic mind rather than a receptive one; he, while creative in his own way, was inexhaustibly receptive; unfamiliar ideas after her marriage found entry to her mind most easily after pre-digestion by Sidney.

The final study of the Webb partnership, both as one of the great forces in recent British history and as a dramatic combination of two fine human beings, has still to be made. When it comes to be made, it will be fuller and truer, on account of the vivid sketch presented by Mrs. Cole in this volume.

W. H. Beveridge

Chathill.

The Development of the Soviet Economic System. By Alexander Baykov. The National Institute of Economic and Social Research: Economic and Social Studies No. V. (Cambridge; University Press, 1946. Pp. xv + 514. 30*s*.)

At the end of this book, which covers the period from the Revolution to the outbreak of war between Russia and Germany, is a most valuable bibliography extending over fourteen pages. Dr. Baykov explains that it is a selection from the sources he has

consulted, intended as a guide for readers who wish to go more deeply into questions on which he touches only in general terms. Only literature published in the U.S.S.R. has been included, and Dr. Baykov maintains that Soviet statistical and other sources can be used to analyse the economic development of the U.S.S.R. with the same confidence as similar sources elsewhere. I agree that they are the only evidence on which any reliance can be placed; but would add the qualification that since the beginning of the Third Five-Year Plan very little information has been published in the form of official statistics, and that isolated figures in the Soviet Press are often hard to interpret exactly, even when authoritative. More important, however, is that to write this book Dr. Baykov has read through an impressive library of original source material in Russian, and so added to a native understanding of his country's problems a depth of learning that few other workers in this field can begin to rival. His book is likely to remain a standard work on its subject for some time; and research workers will be grateful both for the mass of information which it contains, and for the wisdom and fairness of the explanatory comments.

This does not mean that the book is easy to read, for it is not. No doubt the author was faced with a difficult choice. Having read and digested his sources, he could either publish a series of monographs, each of which would contain all the relevant material and still have room for an exposition long enough to balance the facts and breathe life into them; or he could write a general work, whose life and value would be in the development of a few main theses, and from which all facts not required for this purpose would be rigidly excluded. Dr. Baykov chose the general work, and promised in his preface that only those facts would be mentioned which must be known in order to understand the present-day system and its problems. When it came to the point, however, he did not steel himself sufficiently against other facts that pleaded for inclusion. For the ordinary reader the book contains too much information and too little exposition, too much of Dr. Baykov's knowledge and too little of his wide understanding of Russian life, too little yeast and too much dough.

Dr. Baykov might have found it easier to select and order his material if he had come down less heavily in favour of an historical rather than an economic approach. It is difficult to quarrel with the decision to split up the book by periods rather than by subjects, because the dividing lines between the periods—the

introduction of the N.E.P., the promulgation of the First Five-Year Plan, and the abolition of rationing—are so clearly marked. While policies changed, however, the fundamental problems with which the Soviet Government were grappling did not: how to build up industry at a time when there was an acute shortage of skilled labour and managerial staff, and when the loyalty of the managerial class to the Government was suspect; how to give priority to heavy industry when the standard of living was extremely low; how to introduce large-scale farming while retaining the support of the poorer peasants; how to maintain the exchange of goods for produce between town and country; and how to enforce labour discipline and provide adequate incentives to work under a socialist economy. These problems and their interactions dominate and provide the clue to the changes in Soviet policy since the Revolution. Dr. Baykov by no means neglects them, but he does not sufficiently emphasise them; and it is partly this failure that has made what ought to be an exciting story dull. In general, he does not seem to have thought out deeply or imaginatively enough to what topics priority should be given when describing a planned economy. No justification is thought necessary for devoting a fifth of his space to chapters entitled "Public Finance, Credit and Money"; but he hardly mentions the work done by the Commissariats of Finance and State Control on comparative cost accounting, which is essential if the general level of efficiency in industry is to be raised to that of the best enterprises. There is, however, a good final chapter on planning, in which the contrast between it and business forecasting is effectively stressed, and the impossibility is pointed out of planning in detail until machinery exists for obtaining regular detailed information on which plans can be based.

It would not be right if this review were to leave an unfavourable impression of Dr. Baykov's book. It is required reading for specialists in Soviet economics, and others interested in the subject will find in it much information that is not readily available elsewhere. They must be prepared, however, to work hard at digesting this for themselves; for, helpful though the author's expository comments almost invariably are, they are not sufficiently unified by a firm grasp of the chief economic factors involved to be fully enlightening.

C. H. P. GIFFORD

London.

Aquinas and Modern Practices of Interest Taking. By JOHN P. KELLY. With an Introduction by COLIN CLARK. (Brisbane: Aquinas Press, 1945. Pp. 78.)

THIS is an appetising morsel. Mr. Kelly sets out the canonical view of interest with remarkable clarity and an eye on modern problems; Mr. Colin Clark in an Introduction relates these tenets to Keynesian theory and to his own misgivings concerning the burden of National Debts, and, in fine, gives his imprimatur to the Church doctrine. The brochure is timely and interesting, and may be recommended to economists who are faced to-day with the duty of turning these fundamental questions over in their minds once again.

It may be that we are living through the twilight of interest—anyhow, in the richer countries. But this does not justify us in letting our intellectual insight into the subject be dimmed. Economists have been in the habit of charging the mediævalists and their post-reformation successors with great confusion on this topic, and Mr. Kelly does not convince me that the charge has been incorrect. And I have to record that according to my understanding even Mr. Colin Clark nods.

The economic doctrine is that, if waiting is a scarce factor, a price should be charged for it to secure its optimum use. It may be that waiting will soon no longer be a scarce factor, in the sense that enough waiting will be forthcoming at zero interest to satisfy all demands arising at zero interest. We should thus have reached potentially the condition described by Mr. F. P. Ramsey as "Bliss" much sooner than he anticipated, dispensing with the asymptotic approach, which is required by theory but disappears when our line of advance is not a one-dimensional line but a path broadened by uncertainty. It may be that we have so far been held back from Bliss not by an insufficient propensity to save, but by the forces described by Lord Keynes, and that some interference by a central authority will be necessary to overcome those forces. Some may welcome ecclesiastical assistance in the task of converting public opinion to the desirability of such interference. It may even be that the historian of wide scope will find on looking back that it is the general rule for waiting to be a free good and that it is only exceptionally a scarce factor. The period from A.D. 1500 to 2000 may seem to him quite an abnormal one owing to an unusual combination of progress and poverty.

But it is to be feared that all those happy things will not come

about if we accept the confused teachings of S. Thomas and Mr. Kelly. Certain awkward adjustments will be necessary if gilt-edged interest is to stand at zero, and the canonical confusions obscure that necessity.

First there is the distinction between fungible and other goods. S. Thomas, we are told, makes fungibility essential to the idea and wrongfulness of interest. An article is fungible when the borrower uses it up and repays not the identical article but one indistinguishable from it. Money ranks as a fungible good. Where the identical good is returned a charge may legitimately be exacted for its use during the interval. (It is the fact that the fungible good, because consumed outright by the borrower, could not have been used in the interval that, according to S. Thomas, makes the interest charge illegitimate.) Thus we are allowed to charge for the bare use (in addition, it is implied, to wear and tear and depreciation) of land, a house, etc. Mr. Colin Clark himself says that "there is no objection to the receipt of rent or hire for the use of houses, land, motor-cars, ships, live stock, etc." The distinction is fallacious and the corollary quite impractical. It is impossible to have values existing side by side, the hire of some of which may be paid for, while pay for the hire of others is not allowed. This was why the prohibition of interest was constantly tending to break down. If we did seek to establish zero interest, not precariously as in the middle ages, but on a firm foundation, no practical difficulty would arise with houses. Building-rents would cover depreciation and risk of obsolescence and nothing more; there would be no payment for mere use. But where, as in the case of land, addition to supply is impossible, scarcity rents will remain, and with interest at zero, the capital value of land would become infinite. This is an awkward problem. We must not be lulled by Mr. Clark's "there is no objection." If land has a finite value, can be hired out for rent for a period and returned intact at the end, then it will not be logical or possible to prevent a similar hiring out of money at a rent. The distinction based on fungibility is mere nonsense. In Feudal England all land was vested in the Crown and commercial dealing was not allowed. That was a logical corollary of the prohibition of interest. To buy land for a finite price is indistinguishable from usury.

A similar fallacy is contained in the doctrine of extrinsic titles arising from *lucrum cessans* and *damnum emergens*. If the lender could show bona fide that he could have used the money for a profitable investment, *e.g.*, for sowing wheat, then he was

entitled to charge compensation—in fact, interest. This doctrine was naturally very attractive to the Jesuits, when capitalism was growing fast, if we believe Pascal's view that their main object was to condone rather than correct irregularities. In fact, of course, if interest is sinful, it is equally sinful to make a profit out of sowing wheat over and above a refund of the outlay, a risk payment and a reward of management. And if a state of zero interest were made effective in our society, the price of wheat would move to a level at which no such additional profit was obtainable. No case of *lucrum cessans* or *damnum emergens* would arise.

A quotation from Fr. Dempsey on page 69 seems to suggest that if waiting is indeed a scarce factor, the title to *damnum emergens* will arise in every proper case of lending. This is quite a logical view. But Mr. Kelly caps the quotation by saying that it clearly does not apply in the case of credit creation. And this is the last confusion, from which S. Thomas and the Jesuits must be exonerated, to which I wish to draw attention. If waiting is not a scarce factor, interest payments on lending without risk are not justified in any case. If waiting is scarce, they are no less justified in the cases of so-called "credit creation" or of lending to the Government than in the other cases.

Mr. Clark surely goes rather far when he suggests that modern investigations show that the rate of interest is without influence either on the demand or the supply of capital (p. x). He also argues that when there is no more interest on Government loans, there will be no more Government borrowing. All future public works must be met out of taxation. How then is excess saving to be prevented from causing unemployment? Mr. Colin Clark implies without stating that the propensity to save is such as exactly to balance capital requirements at zero interest. But that would be an astonishing coincidence. If the propensity to save were less, then we must have some interest to limit demand. If the propensity were greater, then at zero interest there would be excess saving; some means must be found for preventing its causing unemployment and the simplest would be for the Government to raise its expenditure above the proceeds of taxation, filling the gap by non-interest-bearing paper.

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NOTES AND MEMORANDA

Fiscal Policy and the Propensity to Consume—A Note

Whilst the columns of the Economic Journal are not the right place for a discussion on ethics, I must venture an ethical Note on Mr. R. S. Williams' article bearing the above title in the issue of December 1945.

In deciding that a "soak-the-rich" fiscal policy would increase the overall propensity to consume, Mr. Williams is probably right. But in proposing that heavier taxation should be imposed on those in the higher-income brackets in the cause of full employment, he is surely advocating a course of Government action with moral implications that ought to be considered on their own merits. I do not suggest that any system of taxation is ever completely logical in its distribution of the burden between various ranges of income. Whilst there is a general acceptance of the justice of progression, the actual extent of this must necessarily be somewhat arbitrary. Though the test of ability is not precisely quantitative, it is at least impartial, in that its justification is not based on the idea that income classes may be characterised by specific habits which in fact vary from person to person. It seems to me clearly wrong to take these habits into account. It involves making every higher-income-class taxpayer bear more tax merely because he falls in a class which as a whole has the inconvenient habit of not spending enough, irrespective of whether he shares that habit.

If it is excessive saving which is anti-social (however innocently undertaken), then it *might* be legitimate to discourage the hoarding of cash-balances by direct action (by negative interest or other means proposed by theorists), but it is wrong to tax all high-income individuals indiscriminately when possibly some of them are doing the decent thing and living up to or beyond their incomes. I should have taken no objection to Mr. Williams' article if he had mentioned, however casually, the ethical aspect of his proposals; but he is, I think, guilty of an inexcusable indifference to this. Nowhere does he refer to the possibility of some principles of justice—however rough and ready—having any connection with taxation. In this omission he is not alone amongst those active in the discussion of Government policy; and it is for that reason that I venture these comments on the need for the continual reference of all problems in applied economics

to a background of absolute values, even though those absolutes can receive only relative recognition in any practical proposals concerning taxation, wages, prices, and so on.

The same comments apply to his suggestion of extending social security benefits *for the sake of* regulation of savings and the cause of full employment. Again, the scale of these transfers from high to low should be a matter for consideration on its merits. The State from time to time makes changes in the things it regards as fundamental in the structure of the national economy. There was a time when the structure of income distribution was regarded as sacrosanct—it was assumed to be the just and proper expression of the workings of the hidden hand which mysteriously saw to it that every man received his due. But even when this was the generally accepted view, it was nevertheless thought proper to have progressive taxation. Though the philosophical background to this acceptance of progression is obscure, it was once not thought right to employ the machinery of the State taxing system to transfer income from richer to poorer. I do not propose to define the stage at which a system of taxation becomes redistributive as distinct from merely progressive. It is sufficient to note that in this country, as in many others, redistribution is now accepted as proper. No longer is it the official view that the existing distribution of incomes is " right " (probably that never was the popular view). This presumably means that we retain the system of distribution (which we may think of, roughly speaking, as a private-enterprise method of determining gross incomes) very largely as a matter of expediency. We do not do the " scientific " thing and have an individual's whole income paid to him by the State (when direct taxes might be abolished) and determined on the merits of the case by State officers. We do not do this because—at the moment, at least—it does not seem a very safe thing to do. So we take the income structure partly for granted and make some adjustments as an afterthought—adjustments which are not fully logically defensible, but which most people (though perhaps largely those in the lower brackets) feel to be in the direction of justice.

If, through the State machine, we manage our affairs like this—by having some broad principles of justice and modifying the given circumstances towards justice whilst stopping short of taking the larger step of actually changing the system—then we must exclude such a policy as is proposed by Mr. Williams (and others). Mr. Williams is making such a challenge to gross income distribution as to involve an assumption that the private-enter-

prise distribution of incomes has no validity at all. ("It is probable that if the entire $20 billion were collected from higher-income brackets a ceiling would be set on incomes having a relatively small volume of savings.") If one accepts this gross distribution, even in our British spirit of compromise—illogical though that might be to a degree—one is debarred from making sweeping adjustments to tax rates levied at various levels of income on considerations other than those of social justice as between the income recipients. I do not think one can exclude fiscal policy from the armoury of full-employment tools—probably it is the most important weapon. But its use should be in terms of totals—of taking some taxation off all-round, or putting some on all-round, without regard to what might expediently (but unjustly) be done, as between various classes, with the aggregate adjustment arising from employment policy. Obviously, such a use of fiscal policy must affect various classes differently—that is unavoidable. My point is that it is wrong to *aim* at affecting various classes differently.

If Mr. Williams thinks that the private-enterprise system will not secure full employment if it is bound by my austere principles of handling fiscal policy in aggregates as regards the taxpayers, then he is really saying that private enterprise should be swept away. I am not sure that I could draw a precise line between the tampering we do with the primary income flows emerging from the private-enterprise structure, on the one hand, and, on the other, its complete undermining by a financial pooling scheme which would retain privacy of property and enterprise as no more than a legal fiction. However, I do feel sure that our existing policy lies largely on the old-fashioned side of this line, and that Mr. Williams' suggestions lie on the revolutionary side. But let us be honest if we are to have any revolutions, and let them appear in the distribution of gross incomes, and not merely in that of net incomes. If we must take a major step instead of continuing our modifications, let us avoid stealing of the proposed kind by abolishing the property rights concerned—for presumably they are obsolete. The major step can be avoided only if the fiscal weapon can conquer the employment problem without degenerating into discrimination of the kind proposed by Mr. Williams.

Apart from these ethical considerations, one wonders how safe it is, in discussing methods of influencing the propensity to consume, to ignore the consequential effects of very steep progression on the propensity to invest.

London. HARRY NORRIS

THE COALFIELDS OF BRITAIN

Report of the Scottish Coalfields Committee. Cmd. 6575, 1944. *Ministry of Fuel and Power Regional Survey Reports :* (1) North Midland Coalfield. (2) Kent Coalfield. (3) Durham Coalfield. (4) The Coalfields of the Midland Region. (5) Northumberland and Cumberland Coalfields. (6) North-eastern Coalfield. (7) North-western Coalfields. (8) South Wales Coalfield. H.M. Stationery Office. London, 1945–46.

THE Regional Survey Committees were appointed in 1944 to consider the present and future prospects of the various coalfields and to report (*a*) what measures, apart from questions of ownership, forms of control and financial structure of the industry, should be taken to enable the fullest use to be made of existing and potential resources of the coalfields, and (*b*) what provision of housing and other services will be required for the welfare of the mining community. The Scottish Coalfields Committee was appointed in 1942 by the Secretary of State for Scotland, with similar terms of reference, but was not debarred from considering the question of ownership, forms of control, and financial structure.

A large part of these Reports is given up to geological description of the coalfields. It would appear to the layman that the basis upon which coal reserves have been estimated varies from one Report to another, and that the resulting estimates should be handled with care; also, that knowledge of coal reserves outside those areas which are being actively exploited at the present time is very sketchy indeed. It follows that, especially in view of our ignorance of future technical developments in mining, the Committees' estimates of future outputs, the life of pits, and the locational trend of future development should be treated as intelligent guesses rather than confident prophecies.

Nevertheless it is extremely important to the future planning of the industry that such an effort should be made to peer into the future so far as present knowledge allows. Generally speaking, the Committees have done a first-rate job, and each Report is packed with detailed information concerning the coal resources, mines, housing and welfare facilities, etc., of the coalfields. With each Report is an excellent series of maps which illustrate and illuminate the text. To the economist, the most interesting features of the Reports are the pointers given to the future location of the industry and the impressions given of its future output

possibilities. The following summarises the chief conclusions of the Committees under this head—the figures in parentheses indicating respectively the 1938 and 1944 outputs of the areas in question.[1]

Scotland (30·3 million tons; 23·3 million tons). A steady decline in the output of the Central area (13·0 million tons; 9·7 million tons) to 8·4 million tons in 1975 is envisaged. In Fife and Clackmannan (8·2 million tons; 6·2 million tons) the pre-war output should be maintained, and even substantially increased to about 12½ million tons by 1975, if account is taken of projected developments. The Lothians area (4·4 million tons; 3·7 million tons) has enormous reserves, and constitutes one of the richest fields in Scotland. Existing pits should expand production to 5 million tons by 1965 and to 7¼ million tons with further development. The Ayr and Dumfries (4·5 million tons; 3·7 million tons) field is approaching exhaustion and no large-scale development can be expected, but with further small sinkings output should exceed 5 million tons by 1965. Assuming that sufficient labour is available the Report concludes that output from existing pits in Scotland should be only about 3 million tons short of the 1938 figure by (*circa*) 1970, and should exceed the 1938 figure by 2 million tons if modest expectations of further development are realised.

Durham (31·4 million tons; 23·2 million tons). Reserves of coking coal in West Durham will be substantially exhausted in the next fifty to seventy years. No estimates of future output are given, but few new sinkings can be expected, and the probability seems to be that output will continue to decline.

Lancashire and Cheshire (14·3 million tons; 10·8 million tons). During the next fifty years about fifty pits, involving over half the men at present employed, will close owing to exhaustion. New sinkings are not likely to be economic propositions over most of the coalfield, and unless capital is provided on very favourable terms, the output of the coalfield will decline very rapidly.

Northumberland (13·3 million tons; 10·2 million tons). Assuming that the pre-war volume of man-power is available, and taking account of probable technical advances and developments already planned, output should exceed 15 million tons in 1960, declining thereafter to approximately the 1938 output in 1980.

Yorkshire (43·2 million tons; 36·5 million tons). By A.D. 2000 about six collieries only are likely to cease work owing to

[1] The output figures given are not strictly comparable as between districts.

exhaustion. Assuming that the necessary labour is available, output *from existing collieries* should exceed the 1938 output by 13·5 million tons annually over the period 1950–2000.

North Midlands (32·1 million tons; 35·7 million tons)—*i.e.*, Notts (15·4 million tons; 15·9 million tons), North Derby (13·0 million tons; 13·8 million tons), Leicester (2·9 million tons; 4·5 million tons), and South Derby (0·8 million tons; 1·5 million tons). In Notts and North Derby several pits now producing about 3·3 million tons in the aggregate will probably close through exhaustion by the end of the twentieth century. No closures through exhaustion or any serious diminution of output for this reason are expected in Leicester or South Derby. These prospective losses should be easily counterbalanced by new developments (mainly at existing collieries) either definitely planned or in process of being carried out. *With increased man-power, but without advances in technique*, output from existing shafts could be increased probably by 25%, and possibly by 50%.

Midland Region (19·4 million tons; 15·8 million tons)—*i.e.*, North Staffs (6·9 million tons; 5·7 million tons), Cannock Chase (5·0 million tons; 4·2 million tons), Warwick (5·5 million tons; 4·4 million tons), South Staffs (1·4 million tons; 1·0 million tons), and Shropshire (0·7 million tons; 0·5 million tons). Assuming additional man-power or increased productivity per man-shift, output from present proved areas in the Midland region should reach a peak of 24·7 million tons by 1974, thereafter declining to the 1938 output by 2044. The increased output is expected to come mainly from Warwick and North Staffs.

Kent (1·7 million tons; 1·3 million tons). Total output from planned development of existing collieries is expected to rise to 4 million tons per annum.

North Wales (2·7 million tons; 2·0 million tons). Pre-war output should be restored when additional man-power becomes available. Further increases are possible with additional capital expenditure and development.

Cumberland (1·6 million tons; 1·0 million tons). Taking account of expected development and assuming present availability of man-power, output should rise to 2·6 million tons by 1960, remaining fairly stable thereafter until 1980.

South Wales (37·6 million tons; 25·1 million tons). Assuming favourable trade conditions, and including estimates of production from new developments definitely planned and from closed mines capable of reopening, output should reach 41·3 million tons in 1949, 46·3 million tons in 1964, 36·7 million tons in 1974,

and 13·8 million tons in 2044. These estimates are based on the further assumption that the same man-power is available as in 1938. The expansion in output should be fairly evenly spread geographically, but after 1994 the decline will probably be most serious and rapid in the Eastern and Western valleys of Monmouthshire.

Making a rough guess on the basis of these estimates, it would appear that coal output in Great Britain over the next thirty years may exceed the 1938 output by 20 to 35 million tons. How much reliance should be placed on these figures? Estimates projected more than fifty years ahead are obviously most unreliable, but the expectations of the experts as to what is likely to happen during the next thirty years have to be seriously considered.

Generally speaking, it has been assumed that the 1938 volume of man-power would be available, or (in at least one important case) that an increase in the 1938 labour force would be forthcoming, failing a substantial rise in output per man-shift. These outputs could be raised from coal areas already proved and being exploited, either from existing pits or from new development work which in most cases appears to have been definitely planned. In short, these Reports tells us what is physically possible from existing pits and from new development planned for the near future. This is valuable data to possess, and however sceptical we may feel about the possibility of the industry ever again attracting its 1938 volume of man-power, one must admit, on the other hand, that little account has been taken on the whole of probable technical developments which may lead to a substantial raising of output per man-shift.

The present writer nevertheless feels very doubtful about the possibility of the 1938 output being reached, much less exceeded, during the next thirty years. Let us take the South Wales Report for example.[1] We are told on page 60 that the majority of existing collieries employing more than 250 men have been in production for forty years or more, and some as long as 100 years. Only eleven out of 155 mines of this size have been opened in the

[1] It is not suggested that what follows is typical of all the Reports. Some carry a heavy implication that consideration of economic factors has induced considerable caution in estimating future outputs. In spite of what follows, the South Wales Report is from many points of view the best of the series. It contains a mass of detailed and well-arranged information which has not formerly been available. It is impossible to convey any accurate idea of the scope of this Report in a short note. It covers 218 pages and includes seven appendices seventy-two statistical tables, eighteen diagrams and seven maps.

last twenty-five years. The Report continues: "Although most of the older collieries still have considerable working reserves of workable coal, it is found that in many of these the more productive seams have been largely exploited in the past. . . . Unless [there is considerable technical development] there is a real danger that the increasing difficulties will render many of the older collieries unworkable economically in the fairly near future." On page 114 we read that "no serious problem on account of a decrease in mining activity in any part of the coalfield should be encountered during the next 50 years, unless in certain areas the cost of production becomes so excessive as to make what now appears to be a workable reserve uneconomic."

These extracts call attention to a serious defect of many of the Reports. Little attempt has been made to relate estimated future outputs to probable market conditions and costs of production. Yet this is something which might surely have been attempted for the fairly near future. The results could hardly have been more conjectural than estimates of future output, in the light of purely physical conditions, for the year 2044. This defect is particularly serious in the case of South Wales. Output per man-shift in this district for 1944 was the lowest of any major coalfield. The average cost per ton was 43*s.* 4*d.*, whilst average proceeds of sale were 36*s.* 6*d.*—the difference being more than made good by subsidies payable through the Coal Charges Account. As conditions return to normal, any expansion in output will have to be disposed of in foreign markets. Even making allowances for a possible (but by no means certain) fall in costs as output expands, it is highly improbable that large additional tonnages of South Wales coal will find markets without heavy subsidisation. It is impossible to guess how the proposed National Coal Board will handle this problem. Very probably output will be increasingly concentrated on the best pits, which will be extensively reconstructed and modernised. This may permit economic production, but will not permit the planned outputs of the Regional Survey Committee to be reached, since these estimates have been based on the reserves and capacity of all existing pits plus new developments.

Press notices of these Reports have unfortunately given the impression that, considered as a whole, everything is well with the British Coal Industry, and that considerable expansion is just around the corner. In fact, all that the Reports tell us is that sufficient reserves are available to permit such expansion. Studied carefully and considered in the light of all available information,

they set the measure of the immense task before the National Coal Board. Unless immediate steps are taken to attract man-power, to speed up technical developments on a most ambitious scale, and to explore the development possibilities of present unproved coal reserves, the industry will probably continue to decline.

The Reports give a fairly clear indication of the future locational trend of the industry—away from the older areas of Durham, Lancashire, Lanarkshire (and South Wales?), and towards the East Midlands of England, and Fife and the Lothians in Scotland. In the long run this may enable the Coal Board to free itself to some extent from the legacy of the past. But apart from labour difficulties, the immediate prospect before the Board is not bright. These Reports make it clear that new capital investment in the industry may show disappointing results in some areas, as seams get thinner and the quality of the coal deteriorates.

These Regional Surveys would have been more valuable if greater uniformity had been observed in the presentation of material. The assumptions on which estimates of future outputs are based vary from one Report to another, whilst some Reports make no estimate. Only a few of the Reports give facts and figures relating to the age, depth and expected future life of pits, and average distances from shaft-bottom to coal-face. On all these subjects we still lack comprehensive information. The latter is particularly important at the present time, in view of the necessity to raise productivity at the face. In Northumberland it is estimated that the equivalent of 1,700 man-shifts per day are lost in walking time to the coal-face. In Durham man-riding facilities are provided for only 12% of the face-workers, although 55% of the coal is obtained from faces over 1 mile from the shaft-bottom. In Lancashire walking time to the face frequently exceeds thirty minutes, with the return journey taking roughly the same time. In South Wales (surprisingly enough) 51·8% of face-workers are employed within 1 mile of the shaft, and only 3·8% are employed over 2 miles away. Roughly the same percentages of total output are won at these distances. Man-riding facilities are available to only 26% of all face-workers, but the great majority of those employed over 1½ miles from the shaft are provided with such facilities.

All this underlines the urgent necessity for reorganisation of underground haulage to which the Reid Committee has already called attention. Several of the Regional Survey Committees urge that mechanisation in all its aspects should be speeded up,

and both the Scottish and Midland Committees stress the need for further unification.

On the subject of housing, these Reports substantiate a great deal of what is generally known concerning the deplorable living conditions in most mining areas. It is noteworthy that the exceptions to this are almost all to be found in recently developed areas. Nearly all the Committees emphasise the undesirability of segregating miners and their families in small mining communities. The South Wales Committee are of opinion that travelling distances to work are often excessive, many miners passing one or more collieries to work at another. In this and other connections the National Coal Board might well investigate the possibilities of some redistribution of the present labour force.

Nothing is more important to an understanding of the coal industry than an appreciation of its variability. Despite their preoccupation with the purely physical aspects of mining and a distinct unevenness of quality between them, a careful perusal of these Reports could hardly fail to clear up many prevalent misconceptions concerning the magnitude and nature of the coal problem.

A. BEACHAM

Aberystwyth.

OBITUARY

EDWIN WALTER KEMMERER

1875–1945

THE death took place at Princeton, New Jersey, on December 16, at the age of seventy, of Professor Edwin Walter Kemmerer, who was Professor at that great University for the long period of thirty-one years, a prolific writer on finance and currency, and one-time financial adviser to twelve countries. Because of his many missions to foreign countries, starting in 1903 with a visit to the Philippines, he became known as "the money doctor."

He was born in Scranton, Pennsylvania, on June 29, 1875, and graduated from Wesleyan University in 1899, working his way through that University. He won a fellowship for graduate study in economics and finance at Cornell University, where he took his doctorate of philosophy in 1903 with a thesis on money and prices. His thesis was an outstanding piece of work, and marked the beginning of his career in economics. He taught at Purdue University for two years before going in 1903 to the

Philippines. Returning to the U.S.A., he was, from 1906 to 1912, assistant Professor of Economics and Finance at Cornell. In 1912 Kemmerer was appointed Professor of Economics and Finance at Princeton. He occupied the Chair for sixteen years, until he was elevated to the Walker Chair in International Finance in 1928, and at the same time made Director of the International Finance Section of the University. He retired in July 1943, but continued to devote himself with even greater energy than before as an out-and-out exponent of the classic Gold Standard, until last year his heart gave out. It was not possible for a man of Kemmerer's disposition to rest when he believed that the maturity school of economists (which included Hansen and Samuelson of Harvard and others throughout the great and friendly Republic) were having it all their own way. He criticised in severe terms the Bretton Woods proposals and everything that departed from what he regarded as the orthodox gold standard. To this a reference will be made later. It will suffice to say here that his strength was overtaxed, with the inevitable result that he passed away suddenly just three months after the onset of illness in September.

It was as a financial consultant that Kemmerer won his spurs as an international economist. He had no small share in reconstructing the currency systems of the Philippines, Mexico, Guatemala, Colombia (twice), the Union of S. Africa, Chile, Poland, Ecuador, Bolivia, Peru, China, and Turkey. He called himself a diagnostician rather than an attending physician, and a good diagnostician he was. His practice was to analyse difficulties, to devise a list of remedies, and then to leave the patient, usually a sick and troubled country, to go on from there. As in his reports on Poland and on Colombia, he would close an investigation by submitting legislation all drawn up and ready to be passed by the legislature of the country in question. When a country applied to the Department of State and the Treasury in Washington for an expert, Kemmerer was the man usually designated. In 1917 he was financial adviser to the Government of Mexico, and in 1919 to the Government of Guatemala. He was Chairman of the Commission of American Financial Advisers on Colombia in 1923, and of the two members—the other was Dr. Vissering, Governor of the Bank of the Netherlands—of the Gold Standard Enquiry Commission for the Union of South Africa 1924–25; expert on currency and banking to the Dawes Committee 1925; Chairman of the American Commission of Financial Advisers to Poland 1926, to Ecuador 1926–27, to Bolivia 1927, to

China 1929, to Colombia 1930, to Peru 1931, and to Turkey 1934. Several of these countries decorated him for his work. It was when on one of these surveys that he and his family had a narrow escape. They were aboard the boat *Villa Franca* in the Alta Parana River in Paraguay when the petrol on board exploded. Sixty lives were lost. The Kemmerers jumped overboard and swam to shore. They were among the few survivors.

The best known of Kemmerer's fourteen books are perhaps *Modern Currency Reforms* (1916), *The ABC of the Federal Reserve* (10th Edition 1936), *The Principles of Money and their Exemplification in Outstanding Chapters of Monetary History* (1935), *The ABC of Inflation* (1942) and *Gold and the Gold Standard* (1944), which gives the author's well-known views on gold. In addition to these, there are reports such as that submitted by him in 1926 on Polish finances and published by the Ministry of Finance, Warsaw, and a large collection of pamphlets which can be divided into two main classes: those dealing with the gold standard and those on the Bretton Woods Plan. A third group deals with miscellaneous matters, of which *The Outlook for our College Endowments* (1939) and *Some Observations on the Monetary Policies of the United States* (1941) are the best known. Some of Kemmerer's close friends felt that as he passed the grand climacteric he became more and more dogmatic and unyielding to those who believed in the New Deal and in Full Employment for the United States. In regard to these policies he was always a sharp critic. In 1937, for example, he advocated a reduction in Government expenditure for unemployment relief to avert a threat of inflation. "I fear," he wrote to the writer of this notice in 1944, "that on this subject [unemployment policy] you and I are not in full agreement and that the same is true of the great majority of people in Great Britain." This difference in viewpoint never affected in any degree a close and intimate friendship.

Kemmerer never seemed to get away from the gold standard as it is described in the classic teaching of Ricardo and Mill. He never saw that it could not work in regard to the lowering of prices and wages in the world of to-day, when the technique of central banking and trade unionism, not to mention other factors, made its automatic working impossible. He quoted with approval the Macmillan Committee of 1931 without understanding the significance of the last six words of the following quotation:

"There is, perhaps, no more important object within the field of human technique than that the world as a whole should achieve a sound and

scientific monetary system. But there can be little or no hope of progress at an early date for the monetary system of the world as a whole, except as the result of a process of evolution starting from the historic gold standard."

The rigid attitude held by him in regard to the gold standard made it necessary for him to reject, unlike most American economists, the Bretton Woods Plan, which he thought would result in currency instability, currency debasement, and all the attendant evils that ordinarily go with these. In his pamphlet *Implications of the International Monetary Fund*, published on May 10, 1945, in the *Commercial and Financial Chronicle*, he wrote: "The Bretton Woods Plan would be away from currency stability, free exchange and internationalism, and toward currency debasement, exchange controls, paper-money standards and monetary nationalism. In other words, it would be in the direction exactly opposite to the primary purpose of the Fund as contemplated by its leading American proponents." He strongly disliked the provisions in the Plan authorising changes in the par values of the monetary units of individual members, as it would facilitate on a large scale the exploitation of creditors by their debtors, and he disagreed with Keynes when, in the House of Lords, he said, "We are determined that, in future, the external value of sterling shall conform to its internal value as set by our domestic policies, and not the other way round. . . . [And these domestic policies themselves] shall be immune from criticism by the Fund. Indeed, it is made the duty of the Fund to approve changes which will have this effect. That is why I say that these proposals are the exact opposite of the gold standard. They lay down by international agreement the essence of the new doctrine, far removed from the old orthodoxy." Kemmerer read into this that the Bretton Woods Plan implied that changes of exchange rates would be the normal means of adjustment. Nothing in the Plan, however carefully stated and amplified in the official and non-official literature on the subject, would convince him of this heterodoxy of his. But let that pass.

Kemmerer married forty-five years ago Miss Rachel Dickel, when he was twenty-six, and it was, his friends used to think, the best day's work he ever did. His wife interested herself in his work and travelled with him extensively, being my guests in India on their way back from China when he wished to study Indian public finance and also India and silver. Of this marriage he had a son and daughter—Professor Donald L. Kemmerer of the University of Illinois, and Mrs. Erling Dorf of Princeton.

G. Findlay Shirras

Berlin.

Heinrich Sieveking

From Hamburg comes the news that Heinrich Sieveking, for long years senior professor of political economy and at one time Rector of the University, has died at the age of 74. He had numerous friends beyond the confines of his country, and he deserved many more than he had, for he was a humanitarian of the purest water and a citizen of the world in the finest sense of the word.

Sieveking came from an old patrician family which had given many great figures to the public life of his home town, especially Amalie Sieveking, a personality comparable to Florence Nightingale. Staunch liberal that he was, the Professor always ridiculed the idea that family connections are a valid claim to position and respect; yet he was well aware that they impose duties on the individual, and he felt this the more keenly as he realised what a rare being a progressive and cosmopolitan burgher in Germany always was. This attitude accounted for much that was lovable in his character. His respect for the opinions of others, be they even immature students, was perfect; and he was unsurpassed in his broad toleration of convictions he was unable to share. In the strange atmosphere of inter-war Germany he represented an attitude to life which is difficult to find outside the Anglo-Saxon world, and which in Europe had almost died out since its short heyday in 1848.

Sieveking's education and erudition were as wide as his interests. He acquired doctorates in philosophy and law before he commenced the study of political economy, and always managed to keep up his intellectual connection with the fields which he no longer cultivated *ex professo*. When he went to the University in the 'nineties, historicism was at the height of its power, and Sieveking certainly fell under its spell. He always remained more keenly interested in the realistic description of economic life than in any theoretical conclusions which might be drawn from observation. But this attitude was due more to personal inclination than to a narrow creed. In fact, his mind was essentially eclectic and not doctrinaire. Thus he was a disciple of Roscher rather than of Schmoller. Like Roscher, he never gave up the belief in the fundamental soundness of " Smithianism " as an economic theory, and he was at all times a convinced advocate of free trade. Yet his liberalism did not prevent him from demanding a progressive social policy, and he remained favourable to further social legislation long after many other

socialists of the chair had practically abandoned their cause. In all this Sieveking was a brother-in-arms of Lujo Brentano, who is probably much better known in this country.

In 1897 Sieveking was appointed lecturer in Freiburg, and in 1900 promoted to a professorship. After a short period at Marburg he was called to Zürich, where he stayed until 1922. Many Russian refugees, anarchists and others, were among his students, and he used to tell many entertaining episodes of his experiences with them. It cannot have been easy to teach them orthodox economics ! In 1922 Sieveking left Zürich for Hamburg where he remained for the rest of his life. His outstanding literary achievement was his *Genueser Finanzwesen* (1898–9), an investigation of the famous Casa di San Giorgio based on laborious and far-flung studies of the sources. But he also wrote on questions of foreign trade, and especially on economic history, where his broad and ingeniously documented surveys achieved considerable international reputation.

When National Socialism conquered Germany, Sieveking retired from the University. Needless to say, he was an implacable opponent of that evil philosophy, but, like most of his kind, not a very vocal one. The German professor has ever preferred the closet to the market-place. Yet Sieveking never made a secret of his contempt for those who went over to Hitler for reasons of opportunism, and he would never give up his friends, German or non-German, Aryan or non-Aryan, just because they displeased the new masters. His house was always open to them, and with those who were driven into emigration he kept up his friendly intercourse, without fear and without fail. During the war Sieveking was visited by extreme sorrow. He lost both his sons, who had been obliged to return to the Reich after one had gone to Switzerland, the other to Turkey. It is plain what this must have meant to a man who could not, for a single moment, approve of the whole venture.

In her present humiliation, Germany can expect her salvation only from men of Sieveking's character and convictions. They alone can lead her back to the great comity of nations.

W. STARK

University of Edinburgh.

CURRENT TOPICS

The death of Lord Keynes has made it necessary for the Council to take action under Section 13 of the Bye Laws of the Society to fill the extraordinary vacancy in the office of President. Mr. R. G. Hawtrey has been elected to hold office until the Annual Meeting, and he will be nominated by the Council for election at that meeting for the ensuing year. Mr. Hawtrey's election leaves a vacancy in the office of Treasurer. The Council has appointed Mr. H. C. B. Mynors of the Bank of England to fill the immediate vacancy, and will similarly nominate him for election to the office at the Annual Meeting.

By the death of Sir John Clapham we have lost also one of our Vice-Presidents, who had served as a Member of the Council since 1918. We hope to publish an obituary notice in the next issue of the Journal.

A change in the financial position of the London and Cambridge Economic Service makes it impossible for copies to continue to be provided to the Royal Economic Society on the terms which have hitherto permitted a free distribution of the Memoranda with the Economic Journal. The Royal Economic Society is making arrangements with the London and Cambridge Economic Service for Fellows to subscribe to the Service on special terms. The rate of subscription will depend on the numbers who decide to continue on these terms. If orders for less than 1,500 copies are received the subscription would be 15*s*. per annum, as compared with the normal rate of 20*s*.; if between 1,500 and 2,000, it would be 12*s*. 6*d*.; if over 2,000, it would be 10*s*.

The content and presentation of material in the London and Cambridge Economic Service are now being reviewed in the light both of present ideas as to the data that is relevant to variations of trade activity and also of the recent statistical publications of the Government. The Service will continue, as in war-time, to appear quarterly. Fellows who subscribe on the special terms offered will receive all published material posted directly on the day of issue from the London and Cambridge Economic Service, to which subscriptions will be directly payable. The Bulletins of the London and Cambridge Economic Service will continue to be supplied to readers in the ordinary way throughout 1946.

A business reply card has been enclosed in this issue of the JOURNAL. Those who wish to become subscribers to the London and Cambridge Economic Service from the beginning of 1947 are asked to write their names on the card and post it. No postage is necessary except for countries overseas.

MR. T. BALOGH has been elected to a Fellowship of Balliol College, Oxford.

MR. TOM WILSON has been elected to a Fellowship and Tutorship in Economics at University College, Oxford.

THE following have compounded for life membership of the Royal Economic Society :—

Alexander, S. S.
Baehr, Dr. P. J.
Baillie, G. S.
Balloch, W. W.
Balson, W.
Barna, T.
Bates, A. F.
Baudin, Prof. L.
Beckenham, H. G.
Beving, C. A.
Black, J. H.
Brook, Prof. G. L.
Budgen, R. B.
Burnett, J. M.
Buscombe, J. H.
Calvert, G. N.
Chowdhury, Dr. M.
Clark, Laurence W.
Clark, Leslie W.
Crystal, T.
Dutschler, Dr. E. W.
Emblem, L. F.
Emole, E.
Evans J. D.
Frankland, A.
Friday, F. A.
Garbett, F. S.
Gilpin, A. C.
Grosse, R. N.
Harber, F. O.
Isaac J.
Javeri, S. C.
Jesvani, T. K.
Kaldor, N.
Kaul, N. B.
Kirton, R. J.
Knight, A. W.
Kovacs, L.
Langdon, H. S.
Lee, L. S.
Li, Dr. Cho-Min.
Lloyd, W. E.
Lyne, J. F.
Mayhew, Major C. P.
Mitchell, J. W.
Mullins, A. F. J.
Nathan, Dr. O.
Neale, J. A.
Newman, J.
Norris, W. J. C.
Oka, G. M.
Osborne, G. F.
Owen, G. R. B.
Pai, T. A.
Peregrine, J. P. J.
Pleming, Major J. E.
Poole, J. C.
Presanis, A.
Pritchard, E. L.
Pykett, R. H. A.
Rao, Prof. V. K. R. V.
Rasminsky, L.
Ravestijn, Dr. H. van.
Robinson, B. E.
Samways, R. H.
Schneider, Dr. E.
Scitovszky, T. de.
Scott, E.
Shah, C. M.
Shakespear, C. R.
Sinha, R. L.
Slitor, R. E.
Smith, Caleb A.
Soong, H.

Steer, E. T.
Timmerman, W. A.
Tjaden, W. L.
Ungphakorn, P.
Van Egmond, G.
Walker, J. G.
Wang, C. H.
Warden, A. P.
Watson-Hyatt, Major R. W.
Whetham, Miss E. H.
Widdowson, N. P.
Williams, W. G.
Wold, K. G.
Wood, A. W.

The following have been admitted to membership of the Society :—

Abrams, M.
Agrawal, S. K.
Alwis, M. N.
Armstrong, V. R.
Baldna, Prof. G. D.
Barclay, G. E.
Barrett, R. C.
Bauminger, P.
Beckerman, W.
Beer, F. G.
Beighton, T.
Betts, C. H.
Bevens, A. E.
Bhaimia, Y. E.
Blundell, H.
Boucher, G. P.
Briant, C. H.
Brill, D. H.
Briscoe, B.
Brooks, F. H.
Brown, G. P.
Bryan, W. O. E.
Budden, E. S.
Burchardt, F. A.
Burt, A. R. G.
Buttriss, G. E.
Cairns, A. Q.
Calvey, H.
Campbell, W. G.
Carolides, L.
Cash, W.
Catlow, H.
Chapman-Cohen, Major C. C. E.
Charles, Major I.
Chaumeton, J. C.
Chivers, M. E.
Clark, W. C.
Churchward, J. H.
Clay, E. C.
Clèments, J. F.
Cook, K. R.
Coombes, E. E.
Coombs, C.
Cooper, Capt. N. D.
Corbett, B. I.
Cowell, L. M.
Cowler, S. A.
Cox, F. A.
Craig, A. M.
Crawford, M. M.
Crawford, N. F.
Currie, Capt. A.
Dadzie, E. K.
Dakin, E. F.
Dalal, K. L.
Dalemont, E.
Dandie, A.
Das, P. K.
Datta, Prof. B.
Davies, E. J.
Davis, J. L.
Davis, R.
De Corval, G.
Deeks, H. W. G.
De Sora, Count R.
Dina, I. O.
Dirs, F.
Dixon, J. H.
Dow, J. C. R.
Duncan-Gibson, R. R.
Edmunds, S. W.
Efroymson, C. W.
Elliott, S. F.
Elsworth, P. J. N.
Emslie, G. D.
Evans, C. A.
Evans, Rev. W. J.
Fagan, T.
Feinstein, H.
Fellman, E.
Ficker, H.
Fidler, M. M.
Fischer, F. G.
Fortin, C. H.
Fowler, R. A.
Gale, R. C.
Garnet, S.
Ghose, B. K.
Gilbert, J. C.
Gill, L.
Gilmour, I.
Gonsalves, T.
Gordon, W. E.
Graham, G. B.
Green, K. S.
Greig, N. P.
Grosvenor, J. P. G.
Gupta, S. C.
Gupta, S. R. Sen.
Hagemejer, W. H.
Halpern, Dr. D. B.
Hambloch, E.
Harari, A.
Hardaker, W. C.

Hardy, V. L.
Hariharan, V.
Harris, L.
Harrison, C. T. H.
Hart-Still, R.
Henisch, K. N.
Hobson, A. C.
Hopkinson, W. J. B.
Horne, K. E.
Houghton, P. S.
Howarth, A.
Huppert, Dr. E. L.
Hyde, E. S.
Jable, K. S.
Jackson, J. A.
Jacoby, N. H.
James, E. N.
Jenkins, H. L.
Johnson, Miss E. M.
Johnston, J. H.
Jones, H. M.
Jones, R.
Kapadia, H. F.
Karunaratne, K. A.
Kempe, J.
Khan, C. M. U.
King, M. E.
Kinsey, Major R. S.
Knight, R. H.
Kochmann, M.
Kolatkar, G. R.
Kostelecký, V.
Kurankyi-Taylor, E. E. K.
Lambert, A. P.
Lavery, C. J.
Leader, E. C.
Leubuscher, Miss C.
Levin, R.
Lewis, D.
Lewis, Major L. C.
Leza, Dr. W. F.
Lindblom, C. E.
Lipavsky-Halifi, I.
Liston, Major D. J.
Lockie, J. H.
Long, E.
Lopez, J. R.
Lotz, L.
Lougheed, W. F.
Lunn, W.
McAughtrie, A.
McCabe, Miss A. E.
MacDonald, Lt.-Comd. M.
McDonald, R. B.
MacIntyre, A. G.
Mackay, A. D.
McKee, R. C.
McMillan, S. S.
Mandicas, A. S.
Mathew, H. P. A.
Matthews, R. P.
Mayobre, J. A.
Mehra, G. D.
Mellilieu, H.
Meyer, F. V.
Middleton, J. B.
Millner, Dr. F.
Mitchell, Miss J.
Mitchell, J. R.
Momtchilof, N.
Mont, C.
Morgan, A. M.
Morgan, J. B.
Muddell, J. H.
Mukerjee, K. K.
Mumford, W. W.
Neill, A. J.
Northcott, A. G.
Nosshy, S.
Novotny, Prof. J. M.
Noyes, E. E.
Odling, G. C.
Onaran, M. H.
Oppe, D. L. T.
Orenstein, E.
Organ, A. M.
Orgel, N.
Ormerod, V. M.
Page, F. E.
Page, W. S.
Parker, G.
Partington, R. C.
Patching, A. E.
Pearson, H. J. S.
Peppler, F. H.
Perroux, Prof. F.
Pesmazoglu, Dr. J. St.
Phillips, W. H.
Purdon, A.
Radvanyi, Dr. L.
Rajak, A. A.
Ram, D.
Richards, B. A.
Roberts, S. J.
Robinson, T.
Robson, N. J.
Roebuck, Capt. T. H.
Ross, G. E.
Russell, B. H.
Rutnam, G. M.
Ryan, T.
Sadler, S. A.
Samarasekera, C. P. P.
Sanderson, N.
Sastry, V. R.
Sathayé, S. G.
Saul, C.
Sen, A. K.
Shard, C. L.
Shaw, B. L.
Shawcross, Major A. J.
Shawcross, Miss F. M.
Sheldon, Lt. A. J.

Shenkman, Dr. I. M.
Shiff, H. A.
Shih, C. C.-T.
Simmonds, R. M.
Sircar, A.,
Smith, B. McC.
Smith, E. B.
Smith, Major N. H.
Smyth, J. J.
Sorrell, A. A.
Starke, L. G. K.
Stevens, J.
Stewart, J.
Stone, C. P.
Taupin, G. C. E.
Taylor, D. R.
Taylor, L.
Taylor, L. H.
Taylor, T. A.
Tewari, T.
Thirkettle, G. L.
Thompson, Capt. C. H.
Thomson, W. L.
Timmerman, W. A.
Towe, J. J.
Trenerry, T. R.
Tucker, P. J.
Uplap, S. K.
Voisey, R. J.
Voysey, D. A.
Wadia, A. B.
Wainhouse, C. R.
Walden-Horscroft, Lt. F.
Walker, A.
Walker, H. G.
Wallace, B. C.
Wansbrough, G.
Wardle, W. R.
Warner, P. V. N.
Weiss, O. E.
Westoby, J. C.
Wheble, C.L.
White, C.
Whitehead, Lt.-Col. S. W. M.
Whiting, F. E.
Whittaker, F. R.
Wilks, G. W.
Williams, G. B.
Winter, Major C. G.
Wood, R.
Wright, E. P.
Young, B.
Zschokke, Dr. H. P.

The following have been admitted to Library membership of the Society :—

Academia Sinica, Shanghai.
Agricultural Bank of Turkish Republic.
Bibliothèque de Documentation, Paris.
Bureau of the Budget Library, Washington.
Faculty of Commerce, Alexandria.
Institut de Science Économique Appliquée, Paris.
Leathley Publications, Ltd., Strand, W.C. 2.
McCann-Erickson, Inc., New York.
Michelin Tyre Co., Ltd., Stoke-on-Trent.
Natal University College.
Universitetsbiblioteket, Oslo.

We record with regret the recent deaths in Italy of Umberto Ricci and Augusto Graziani. We shall include obituary notices in a later issue.

Applications are invited before July 1 for the Sir Robert Woods Research Lectureship in Economics and Political Science at Trinity College, Dublin. Information may be obtained from the Registrar of the College.

There are vacancies for statisticians on the permanent establishment of a number of Government Departments and for economic assistants in the Economic Section of the Cabinet Offices. Further information may be obtained from the Secretary of the Civil Service Commission, Burlington Gardens, W.1.

As we go to press, the Birthday Honours List includes the names of a number of members of the Council of the Royal Economic Society Among the Barons are Sir William Beveridge and the Hon. R. H. Brand. Mr. Henry Clay receives a Knighthood. Mr. R. F. Kahn receives the C.B.E. To these, and to all others whose names may have eluded us at a first glance, we extend our heartiest congratulations.

Two Sarah Frances Hutchinson Cowles Fellowships for women will be awarded by the University of Chicago for the academic year 1947–48 upon nomination by the Cowles Commission for Research in Economics. Applicants must be students of outstanding promise, preparing for the degree of master or doctor in the field of social sciences and statistics, preferably in quantitative economics or mathematical statistics. The Fellowships amount to $1,000 each, but may be supplemented by an additional grant of $500 if the work of the Fellowship holder lies within the Cowles Commission's field of interest. Holders will be expected to be in residence at the University of Chicago. Applications and supporting documents must be submitted before March 1, 1947. Application forms and further particulars may be secured from the Cowles Commission for Research in Economics, The University of Chicago, Chicago 37, Illinois, U.S.A.

The Royal Economic Society is anxious to obtain returned copies of the last issue of the Economic Journal—that for March 1946. Any member who may care to return a copy in good condition to the Assistant Secretary, Mr. S. J. Buttress, 6 Humberstone Road, Cambridge, will be paid 3*s*. 6*d*.

RECENT PERIODICALS AND NEW BOOKS.

Economica.

FEBRUARY 1946. *The London School of Economics, 1895–1945. The Subjective Theory of Value and Accounting "Cost"*: G. F. THIRLBY. *The Original Security Bank*: S. R. COPE.

The Political Quarterly.

APRIL–JUNE 1946. *Patterns of Power in the Arab Middle East*: "HENRICUS". *The Big Two and Ourselves*: A. JACOB. *Political Education in the Tropical Far East*: J. S. FURNIVALL. *The Population Problem*: SIR WILLIAM BEVERIDGE. *Shareholders' Charter*: A. E. DAVIES. *The Integral University*: C. H. WADDINGTON. *Personal Incentive and Public Service*: G. VICKERS. *Demobilization Defects*: F. GEORGE.

Bulletin of the Oxford University Institute of Statistics.

VOL. 8, NO. 1. *The Anglo-American Financial Agreement*: SIR HUBERT HENDERSON. *The Relation between Birth Rates and Economic Activity in Sweden, 1920–44*: H. HYRENIUS.

VOL. 8, NO. 2. *Income and Household Expenditure of Working-Class Families with Children. Part I. Income and Expenditure on Non-Food Items*: T. SCHULZ. *Employment and Output in the Building Trades*: S. MOOS. *The Swiss Economy in the Transition Period*: O. ANGEHRN.

VOL. 8, NO. 3. *Income and Household Expenditure of Working-Class Families with Children. Part II. Outlay on Food and Nutrition*. T. SCHULZ. *Readjustment Problems in Sweden*: E. LUNDBERG. *Czechoslovak Industry after Nationalization*: J. GOLDMAN.

VOL. 8, NO. 4. *Grocery Sales and Rationing*: T. SCHULZ. *Europe's Average Standard of Living*: K. FORCHHEIMER. *Economic Conditions in Norway*: K. PETERSEN.

The Banker.

MARCH 1946. *The Case against Schacht.*

APRIL 1946. *Why Reconversion Limps.*

MAY 1946. *A Challenge to Mr. Harrod*: P. EINZIG. *Death of a Genius*: THE EDITOR. *Industrial Wales.*

The Bankers' Magazine.

MARCH 1946. *Monetary Review. Educational Section. Insurance and Actuarial Record.*

APRIL 1946. *The State of Europe. The Banks' Information Service.*

Planning.

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Journal of the American Statistical Association.

DECEMBER 1945. *Statistical Quality Control in War Production* : H. WORKING. *Statistical Estimation of Simultaneous Economic Relations* : T. KOOPMANS. *The Relationship between Price Change and Price Level for Common Stocks* : Z. SZATROWSKI. *Apportionment of Representatives in Congress on the Basis of Special Populations* : M. B. ULLMAN. *The Square Root Method and its Use in Correlation and Regression* : P. S. DWYER. *Management Statistics in War Contract Renegotiation* : N. C. PARKIN. *The Generalized "Ideal" Index-Number Formula* : I. H. SIEGEL. *Statistical Methodology Index, 2* : O. K. BUROS.

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JANUARY 1946. *The Responsibility of the Econometrician* : R. FRISCH. *Multiple Regression for Systems of Equations* : G. TINTNER. *Location of Industry and Regional Patterns of Business-Cycle Behavior* : R. VINING. *A Note on Welfare Economics* : G. TINTNER.

Journal of Farm Economics.

FEBRUARY 1946. *Postwar Agricultural Policy—Pressure* vs. *General Welfare* : O. B. JESNESS. *Changes in Economic Structure Affecting American Agriculture* : T. W. SCHULTZ. *Sixty Million Jobs and Six Million Farmers* : F. A. PEARSON and D. PAARLBERG. *The Prospect for Postwar Agricultural Exports from the United States* : R. B. SCHWENGER. *Food and Agriculture Organization of the United Nations* : P. LAMARTINE YATES. *Educational Opportunities and Responsibilities in Foreign Agriculture* : C. L. STEWART. *Social Security for Farm People* : I. S. FALK and W. J. COHEN, and K. H. PARSONS. *Research Developments in Farm Finance* : F. F. HILL. *Research Work in Minimum Financial Requirements and Some Related Considerations for Beginning Farming* : W. L. CAVERT. *Research Developments in Cooperative Marketing* : H. HEDGES. *Research in the Marketing of Milk and Dairy Products* : A. MACLEOD. *In the Marketing of Livestock* : C. D. PHILLIPS. *In Marketing Horticultural Products* : H. R. WELLMAN and G. L. MEHREN. *Postwar Extension Problems in Agricultural Marketing* : W. B. STOUT. *In General Agricultural Economics* : G. W. WESTCOTT. *In Farm Management* : C. MALONE. *Postwar Agricultural Problems in the Great Plains Area* : W. E. GRIMES. *In the Corn Belt* : C. W. CRICKMAN. *In the Dairy Regions* : L. C. CUNNINGHAM. *The Farm Price Policy Awards, 1945 : a topical digest of the winning essays* : W. H. NICHOLLS and D. G. JOHNSON. *Basic Weaknesses of the Parity Price Formula for a Period of Extensive Adjustments in Agriculture* : K. T. WRIGHT. *Parity Prices* : O. C. STINE. *Agricultural Economists and Public Opinion* : L. J. NORTON. *Extension Use of Farm Work Simplification* : R. E. PROCTOR. *An Analysis of Work Simplification Research Methods and Results* : L. S. HARDIN and R. M. CARTER. *The Future of Farm Work Simpli-*

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January 1946. *The Strategy of Territorial Decisions*: I. Bowman. *Risks of a Big-Power Peace*: H. V. Evatt. *New Tactics in Naval Warfare*: B. Brodie. *The Future of Representative Democracy in France*: L. R. Franck. *America at War: The Triumph of the Machine*: H. W. Baldwin. *How to Deal with Japan*: Hu Lin. *Our Armed Forces: Merger or Co-ordination?*: G. F. Eliot. *Canada's New Stature*: L. Gelber. *Russian Naval Aims*: R. J. Kerner. *The Constitutional Crisis in Belgium*: H. Rolin. *Unneutral Neutral Eire*: R. M. Smyllie. *French Difficulties in the Middle East*: Charles-André Julien. *The Fuel Crisis in Europe*: K. Brandt. *The Italo-Jugoslav Frontier*: G. Salvemini.

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Revue D'Économie Politique.

January–March 1946. *Le rôle du temps dans l'explication de l'intérêt*: R. Bertrand. *Recherches nouvelles sur le problème des débouchés*: J. Dayre. *Une agence de commerce extérieur sous la Convention*: R. Mayer. *Psychologie moderne et économie politique* · P.-L. Reynaud.

La Revue Économique et Sociale (Paris).

June 1945. *Perspectives d'après-guerre*: J. P. Raudnitz. *Liberté, Prospérité, Equité*: R. Mossé. *Le Capitalisme d'État aux États-Unis*: R. Bertrand. *La Cellulose Coloniale*: P. Le Cacheux.

August 1945. *L'Organisation économique de la France nouvelle*: A. Gazier. *Point de vue sur les conséquences apparentes et actuelles de la nationalisation des houillères*: R. Moulène. *Contribution à l'étude de la restauration financière de la France*: L. Lebeau. *La Banque de Bretton Woods et l'investissement international*: François-Perroux. *L'Enseignement Musulman au Maroc*: G. Germain.

October 1945. *Contribution à l'élaboration d'une théorie de l'entreprise publique*: M. Bazire. *L'Automobile française dans le monde. Le Plan quinquennal français*: G. Lagardelle. *La Situation financière de la Grande-Bretagne*: L. P. J. Chaumont. *L'Algérie devant le problème du blé*: L. Lavie.

November 1945. *Considérations préliminaires*: M. Allais. *Le Problème du logement*: A. Montgobert. *La Reconversion aux États-Unis*: R. Mossé. *Les Ressources minérales de l'empire colonial français*: R. Furon.

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January 1946. *Vues d'un économiste sur la réforme constitutionelle pour un quatrième pouvoir: la technicité*: B. Nogaro. *Comment rénover l'administration français*: X. *Conséquences de la liquidation du prêt-bail: capitalisme et socialisme dans le monde*: G. Montsarin. *La législation antitrust aux États-Unis*: R. Aglion. *Les Oléagineux dans l'empire français*: E. Miège.

FEBRUARY 1946. *Commentaires sur la nationalisation des Banques :* B. LAVERGNE. *Existe-t-il une base d'action pratique derrière la nationalisation du crédit et des banques ? :* A. ARMENGAUD. *Les Maisons préfabriquées :* P. PEISSI. *La Production d'or, soviétique et la production d'or mondiale :* G. DAVIDOFF. *Les Oléagineux dans l'empire français :* E. MIÈGE.

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L'Égypte Contemporaine.

MARCH 1945. *Economic relationship between the United States and Egypt :* J. LANDIS. *Le Financement de l'Industrie en Égypte :* A. EMAN. *De l'utilité du Libre Échange dans les relations économiques d'après guerre :* AHMED MOUSSA. *From Geneva to Yalta :* N. BENTWICH. *Value of agricultural products and other commodities pertaining to agriculture for the years 1937–1942 :* MAHMOUD ANIS.

Mirovoe Khoziaistvo i Mirovaia Politika (World Economy and World Politics), Moscow.

NO. 7, 1945. *Parliamentary Elections in England :* I. LEMIN. *The End of Hitlerite Germany and the Situation in the Far East :* V. AVARIN.

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No. 9, 1945. *Controlled Economy and Planlessness in Capitalist Countries in War-time*: E. Varga. *The Berlin Conference of the Three Powers*: I. Lemin. *Japanese Imperialism and its Aggression*: Ch. Aidus. *A Year of Polish Rebirth*: I. Goldstein. *Roumanian Trade Unions in the Struggle for Democracy*: N. Pukhlov. *The Influence of War on Agrarian Relations in China*: E. Kovalov. *France's International Economic Agreements*: V. Lubimova. *The Oil Industry in U.S.A. in the War Years*: M. Kogan.

NEW BOOKS.

British.

Agarwala (A. N.). Health Insurance in India. Allengunj, Allahabad: East End Publishers, 1945. 7″. Pp. iv + 145. 8*s*.

[This book deals in more detail than the same author's book on Social Insurance (noted below) with the special problems of Health Insurance, and being written later, takes full account of the proposals of the Adarkar plan.]

Agarwala (A. N.). Pessimism in Planning. Allahabad: Kitab-Mahal, 1945. 7″. Pp. 320. Rs. 5.12.

[The author emphasises what he regards as the political difficulties of planning in India. In the main he finds these difficulties in the form of British control over foreign financial relations. But he emphasises also the obstacles to rapid economic progress in shortage of trained man-power (which he largely ascribes to a backward educational policy) and in the fact that religion has (wrongly in his view) become an obstacle to economic progress. The author is not, as one might expect, antagonistic to planning. Rather he fears that the difficulties are for the moment too great.]

Agarwala (A. N.). Social Insurance Planning in India. Allahabad: Dikshit Press, 1945. 7″. Pp. 218. 10*s*.

[This book, completed in the main before the publication of the Adarkar plan of health insurance, surveys the needs of India for social insurance and attempts the financial problems involved.]

Allen (G. C.). A Short Economic History of Modern Japan. London: Allen & Unwin, 1946. 8½″. Pp. 200. 10*s*. 6*d*.

[To be reviewed.]

Ballin (H. H.). The Organisation of Electricity Supply in Great Britain. London: Electrical Press, Ltd., 1946. 8½″. Pp. xv + 323. 21*s*.

[To be reviewed.]

Carnegie (D.). Armaments with Security Explained. Aberdeen: University Press, 1945. 8¾″. Pp. 35. 1*s*.

[A proposal to mitigate the dangers of private competitive arms manufacture by creating international and national bodies through whom all arms orders would have to be placed, and who would be responsible for controlling arms exports.]

Distribution. The Case for a National Census. London: Fabian Publications and Victor Gollancz, 1946. 8″. Pp. 29. 1*s*.

[This pamphlet is a slightly amended version of the evidence in favour of a Census of Distribution given by the Fabian Society to the Board of Trade Committee that has since reported on the need for such a Census. The pamphlet discusses the whole question of distribution in general terms and emphasises the difficulty of tackling the problems until more statistical evidence is available.]

The Distribution of Population in the Cape Division, 1865–1936. Cape Town University: School of Social Science, 1945. 13″. Pp. 20.

[This roneo-ed report shows the changes in the population, its geographical distribution and ethnic composition since 1865.]

GANDHI (M. P.). The Indian Sugar Industry (1944 Annual). Bombay: Gandhi & Co., 1945. 9½″. Pp. xxxvi + 90 + 29. Rs. 6.8.

[This annual publication follows its usual pattern and provides statistics and a record of events of 1943–4 and, in many respects, also for the 1944–5 season.]

GANDHI (M. P.). Problems of Sugar Industry in India. Scope and Prospects of Re-organisation in Post-war Period. Bombay: Gandhi & Co., 1945. 9½″. Pp. xxxv + 266 + xviii + 30. Rs. 12.

[A detailed statistical study of the Indian sugar industry, which gives the fullest information of its organisation, marketing methods, location, the costs involved in its protection, the methods of war-time control, and the like.]

GRAY (A.). The Socialist Tradition, Moses to Lenin. London: Longmans, Green, 1946. 8½″. Pp. x + 523. 21*s*.

[To be reviewed.]

HARROD (R. F.). A Page of British Folly. London: Macmillan, 1946. 7½″. Pp. 60. 1*s*. 6*d*.

[To be reviewed.]

HAYEK (F. A.). Individualism: True and False. Dublin: Hodges, Figgis & Co.; and Oxford: B. H. Blackwell, 1946. 8″. Pp. 38.

[To be reviewed.]

HUCKLE (A. H.). Economics as Applied to Production and Factory Organization. London: Mitre Press, 1946. 8½″. Pp. 139. 15*s*.

[This is a difficult book to appraise. Of economics, ordinarily so called, it contains practically nothing. It is concerned primarily with the problems of administrative organisation and system—problems of great importance to industrial efficiency and smooth running. Its approach seems, to an economist at least, to be almost entirely practical rather than philosophical: it is relatively little concerned with the question of deducing general principles of universal application. Its value is mainly for the man of action, with a standard problem to tackle.]

The Institute of Actuaries Year Book, 1945–1946. Cambridge: University Press, 1945. 8½″. Pp. xii + 241.

[This contains the usual information regarding the profession of actuary, the examinations. syllabus and similar topics.]

The Journal of the Bradford Textile Society. Session 1944–45. Bradford and London: Watmoughs, Ltd., 1945. 7″. Pp. 91. 10*s*. 6*d*.

[This Record of Proceedings contains summaries of papers by a variety of authors, some on technical matters, but several also on the economic prospects of the industry and on the possibilities of export.]

KELLY (J. P.). Aquinas and Modern Practices of Interest Taking. Brisbane: Aquinas Press, 1945. Pp. 78.

[Reviewed in this issue.]

OSBORN (F. J.). Green-Belt Cities. London: Faber & Faber, 1946. 8½″. Pp. 191. 12s. 6d.

[Mr. Osborn discusses not only the problems of town-planning, lay-out, architecture and planting, but also those of finance. He draws mainly on the experience of Welwyn and Letchworth in this and other respects.]

PATIN (E.). La Bonne Monnaie. Essais sur la monnaie et les échanges. Paris: Recueil Sirey, 1945. 10″. Pp. xiii + 457.

[To be reviewed.]

RAO (V. K. R. V.). Planning Economic Transition from War to Peace in India. Bombay: Vora & Co., 1945. 7½″. Pp. 80. Rs. 1.8.

[Prof. Rao sets out to see how the transition can be planned so as to provide, first, the speediest relief for the consumer; second, employment for those released from the forces and war industries; third, a base for a planned economy in India. He has a large number of concrete proposals to make for the achievement of these ends.]

RAO (V. K. R. V.). The Post-war Rupee. New Delhi: Indian Council of World Affairs (Oxford University Press), 1945. 7″. Pp. 48. Re. 1.

[After surveying the problems of stabilisation and the arguments on each side, Prof. Rao comes down in favour of making no change in the exchange value of the Rupee, but suggests that the Reserve Bank should be under obligation to give Rupees only in return to that volume of sterling which is backed by import bills. He would look for a decline of Indian prices to a level about 60% to 80% above pre-war. He keeps an open mind about the long-term exchange rate and its linkage with other currencies. He would have India give general support to an international currency organisation, with some special freedom to revise rates at the end of a defined transitional period. He insists on the importance of orderly liquidation of India's sterling balances.]

Reconstruction in the Pottery Industry. Manchester: Co-operative Printing Society, 1945. 9½″. Pp. 40. 6d.

[This brief plan for the reorganisation of the pottery industry is put out by the industry's trade union. Much of the space is devoted to wages and working conditions but the more fundamental problem of what to produce, who for, and how to produce it, is not neglected. Exports are considered possible of both high-grade ware designed for the American market and of mass-production for Europe; but this dual policy is thought to be feasible only if the industry is well under Government control. Self-government by joint control of trade unions and employers is rejected, and complete nationalisation accepted only as a long-term policy. The immediate solution advocated is a "slum clearance" of obsolete factories and a licensing of those factories only that agree to certain standards of work, to costings and to the full provision of information. Government finance is advocated for rebuilding; and also better trained management on the personal, technical and commercial "sides." "The British pottery industry has lagged seriously behind its foreign competitors even in such matters as the study of export-market requirements, knowledge of languages, and the preparation of catalogues and sales literature."]

Selling Tomorrow's Production. Montreal: McGill University, 1945. 9″. Pp. 78. Paper-bound $1.00. Cloth-bound $1.50.

[These are six lectures delivered at McGill dealing with marketing problems of the future in Canada. The first and best two (by Canadians) deal with the economics and characteristics of the Canadian market, the others—on market research, production design, selection of sales staff, and on advertising—are by Americans and cover familiar ground. Gilbert Jackson brings out vividly some peculiarities of the Canadian market: the high costs and seasonal difficulties of transport and distribution, the seasonal unemployment caused by the climate, the influence of New York upon the fashion in Eastern Canada. He reinforces the conclusions reached in the C.P.R.B. Report on "The Impact of the War on Civilian Production"—that despite the impressively high production of munitions in Canada, civilian standards during the war were actually higher than before. Mr. Jackson's view is that there must be a substantial increase in the retail cost-of-living index in the post-war period in Canada (the lecture was delivered before VE Day). Prices in Canada during the war were controlled more successfully

and with smaller increases than in the States or the U.K. And if prices do not rise—and it will be difficult to stop them—some adjustment in the external exchange rate will clearly be necessary. Mr. McEachran begins by discussing the change in the age constitution of the population, though the problems which this causes are still a little remote in Canada compared with the U.K. Canada is becoming more urban and also less British, and his most astonishing statistic is that the percentage speaking only French increased between 1931 and 1941 from 15% to 19%. And of significance is that in the past 60% of Canadian immigrants have moved on elsewhere—presumably to the States, thereby escaping some of the quota restrictions. He rightly stresses the importance of branch plant production, the parent (generally American) supplying substantially a proportion of the fabricated import of the branch factories. In the war this made necessary the Hyde Park Agreement to support the increased production of munitions in Canada itself, for Canadian trucks depended upon American engines, and Canadian tanks upon American special steels. To those concerned with Canadian munitions production the most striking fact was the growth of engineering industry between the wars. In 1914–18 Canada made little beside 6-in. shells and M.T. In 1939–45 she made tanks, guns, aircraft, radar, a great range of ammunition, many ships, and this production was excellently organised and controlled by Ottawa. She finished the war one of the major industrial countries of the world, but still very dependent upon other countries. During the war she increased her imports from the U.S. that she might export more to U.K. and Russia—which links will be stronger in the post-war? On this wider aspect of "Selling Tomorrow's Production" much depends.]

SMITH (W.). Physical Survey of Merseyside. A background to town and country planning. Liverpool: University Press, 1946. 8″. Pp. 97. 5*s*.

[To be reviewed.]

WIGGLESWORTH (F.). The Money of Democracy. London: St. George Book Co., 1945. 7½″. Pp. 127. 6*s*.

[Mr. Wigglesworth advocates an International Credit Bank with an international unit of account—"Norma"—whose value will be determined by an index based on a geometric average of all the principal primary products weighted according to their importance. "Any deviations will be regarded as an indication either of inflation or deflation to be instantly corrected by ordinary banking methods." "The Credit International will not seek to regulate the exchanges of its subscribers. It will simply supply the fulcrum by which they can do it for themselves." "The Credit International will regulate the value of 'Norma' primarily by its functions and sales of dollar or sterling securities."]

American.

Capital Goods Industries and Postwar Taxation. Chicago: Machinery and Allied Products Institute, 1945. 9″. Pp. 22.

[This paper of the Machinery and Allied Products Institute, prepared for submission to the Joint Committee on Internal Revenue Taxation, begins by considering the possible causes of deficiencies of investment. It rejects the idea of a decline in investment opportunities due to maturity of the U.S. economy: the developments of science and engineering have never been greater. It argues that the main reasons are heavy taxation of the rewards of investors. It ends with various proposals for diminishing taxation that inhibits enterprise.]

CARDWELL (ANN SU). The Case for Poland. Michigan: Ann Arbor, 1945. 9″. Pp. 92. 25 cents.

[This pamphlet seeks to give a neutral and dispassionate account of the Russo-Polish problem.]

CHASE (S.). Tomorrow's Trade. Problems of our Foreign Commerce. New York: Twentieth Century Fund, 1945. 7½″. Pp. x + 156. $1.00.

[This is the fifth of a series of six volumes which Stuart Chase is writing for the Twentieth Century Fund. After setting the political and economic background, the author concludes that five things are necessary for better U.S. foreign trade: full employment at home; a clear view of import requirements and their release

from high tariffs; a "stuff for stuff" balance of imports and exports to build up the economic strength and standard of living of friendly nations; the adoption of Bretton Woods and of such international agencies as are necessary to control cartels, air traffic migration, commodities, and the like; finally, "no permanent Santa Claus program."]

COPLAND (D. B.). The Road to High Employment. Cambridge, Mass.: Harvard University Press (Oxford University Press), 1945. 7″. Pp. 137. 10*s*.

[To be reviewed.]

DANAHER (E.). Apprenticeship Practice in the United States. Business Research Series No. 3. Stanford University, California: Graduate School of Business, 1945. 9″. Pp. 60. 75 cents.

[This small study of apprenticeship methods reaches a number of conclusions—too detailed to be summarised—as to the terms and conditions of apprenticeship that are desirable.]

DORFMAN (J.). The Economic Mind in American Civilization, 1606–1865. 2 vols. New York: Viking Press, 1946. 8½″. Pp. xii + 987 + lv. $7.50.

[Reviewed in this issue.]

Financing American Prosperity. A symposium of economists. New York: Twentieth Century Fund, 1945. 9″. Pp. 508. $3.00.

[Reviewed in this issue.]

FISHER (IRVING). 100% Money. New Haven: City Printing Company, 1945. 8″. Pp. 257. $1.00.

[This is a third edition of a book which first appeared in 1935 and was reviewed by Prof. D. T. Jack in the ECONOMIC JOURNAL of March 1936.]

FRIEDMAN (MILTON) and KUZNETS (SIMON). Income from Independent Professional Practice. New York: National Bureau of Economic Research, 1945. 9″. Pp. xxxiii + 599. $4.50.

[To be reviewed.]

JASNY (N.). The Wheats of Classical Antiquity. Baltimore, Maryland: Johns Hopkins Press, 1944. 9″. Pp. 176. $1.75.

[An authoritative monograph which aims to determine the botanical identities of the various wheats grown in classical times. The author criticises historians for slip-shod translation and for following out-of-date identifications by the older botanists.]

JORDAN (V.). Manifesto for the Atomic Age. New Jersey: Rutgers University Press, 1946. 7″. Pp. 70. $1.50.

[This stimulating essay starts by looking backwards to the forces that made the pattern of the economic and political system of the age of the industrial revolutions, and then moves forward to the changes in emphasis as the age of machines based on coal and iron gives way to the new age of chemicals and electronics. But somehow Dr. Jordan does not follow the trains of thought that would present themselves to most of us in Europe: the increasing liberation from toil; the growing importance of ways of living rather than of ways of working; the reconciliation of culture and civilisation with machine minding. He is more concerned with the growing importance of collective actions and thoughts as against individual and personal actions and thoughts, but mainly in the working world, as contrasted with the world of culture and leisure. He sees the growth and acceptance, both in internal and external economic policy, of "the idea of collective action, usually compulsory, in applying the principle of unlimited government power and responsibility."]

MINTS (L. W.). A History of Banking Theory in Great Britain and the United States. Chicago: University of Chicago Press (Cambridge University Press), 1945. 9″. Pp. 319. 20*s*.

[Reviewed in this issue.]

PLANNING PAMPHLETS. No. 49. Washington, D.C.: National Planning Association, 1946. 7½″. 25 cents.

[This pamphlet is entitled *A Retirement System for Farmers* and is the work of Murray R. Benedict. The author and the N.P.A.'s Agriculture Committee which considered it both reach the conclusion that there are important gaps in the existing Social Security legislation which need to be filled. These particularly affect both self-employed farmers and farm employees.]

SCHULTZ (T. W.). Agriculture in an Unstable Economy. New York and London: McGraw-Hill Book Company, 1945. 9″. Pp. xix + 299. $2.75.

[Reviewed in this issue.]

SCHWARTZ (H.). Seasonal Farm Labor in the United States. New York: Columbia University Press (Oxford University Press), 1945. 8″. Pp. xiv + 172. $2.25 (15*s*. 6*d*.).

[This monograph deals with the problems of the 3 million or so hired seasonal farm workers of the U.S., and especially in fruit and vegetable and sugar-beet production.]

WYTHE (G.). Industry in Latin America. New York: Columbia University Press, 1945. 9″. Pp. 371. $4.00.

[To be reviewed.]

ZURCHER (A. J.) and PAGE (R.) (Ed.). Postwar Goals and Economic Reconstruction. New York University: Institute on Postwar Reconstruction, 1944. 8″. Pp. xii + 304.

[This is a symposium of addresses delivered at the Second Series of Conferences of the Institute on Post-War Reconstruction. Among the speakers here reprinted are Leon Henderson, Leverett Lyon, Benjamin Higgins, Gardiner Means, Mabel Newcomer, Alvin Hansen, Thurman Arnold, W. C. Clark, Eugene Staley, Calvin Hoover.]

Belgian.

DECHESNE (L.). La Localisation des Diverses Productions. Règles rationnelles déduites de l'expérience. Brussels: Les Éditions Comptables, Commerciales et Financières, 1945. 10″. Pp. 240.

[To be reviewed.]

GOFFART (A.). L'Économie de Paix et le Rôle de l'État. Brussels: Éditions Publior, 1945. 8½″. Pp. 133.

[This book deals with technical progress and output per head, exchanges, loans, the monetary system, international economic relations and taxation.]

Dutch.

TINBERGEN (J.). International Economic Co-operation. Amsterdam: Elsevier, 1945. 8″. Pp. 208.

[To be reviewed.]

French.

DAMALAS (B. V.). L'Œuvre Scientifique de François Simiand. Paris: Presses Universitaires de France, 1943. 9½″. Pp. 266. Fr. 80.

[This is the first comprehensive study on the French economist and sociologist Simiand. It is due to one of his disciples, who has performed his work with great care and understanding, and with charming modesty, yet in a critical spirit. The volume is divided into two parts, the first containing an analysis of Simiand's principal writings (in the first place of his great work *Wages, Social Development and Money*), the second a critical appreciation. The main features of Simiand's thought are: the rejection of all *a priori* theory in economics, and

the attempt to base generalisations on the direct observation of statistical series; a theory of economic development based on technical progress, particularly on the gold discoveries; the central place given to money as the prime mover of economic change.]

HELBRONNER (H. II.). France et Occident Européen. Paris: Éditions Spid, 1945. 7″. Pp. 51.

[A lecture now published in the series of pamphlets issued by the Comité d'Action Économique et Douanière.]

PICARD (R.). La Reconversion Économique aux États-Unis. Paris: Éditions Spid, 1945. 7″. Pp. 85.

[A pamphlet in the series of the Comité d'Action Économique et Douanière.]

RIST (C.). Précis des Mécanismes Économiques Élémentaires. Paris: Librairie du Recueil Sirey, 1945. 9″. Pp. 375.

[To be reviewed.]

RUEFF (J.). L'Ordre Social. 2 vols. Paris: Librairie du Recueil Sirey, 1945. Pp. 743.

[These volumes develop a criticism of inflation into a dogmatic theory of politics. A basis of pure theory is first laid: it goes no farther than an exposition of prices under perfect competition (hardly far enough, some may think, to bear the political superstructure added). An examination of values in a moneyless society then provides the grounds for a theory of individual rights to property. An analytical transition is thus provided for the view that, when money is added, these rights should be fully protected. If they are, they continue true rights (" vrais droits "), if not they become false rights (" faux droits "). It is then shown how property rights can be and have been falsified through budget deficit finance and inflation. The argument is ingeniously and thoroughly worked out by tracing the reactions, under convertible and inconvertible money systems, to short-term Treasury finance, selling short securities at higher than market rates. This leads finally to an interesting attack on rationing and price fixing. These are shown as the inevitable result of continuing deficit finance: the final doom being complete planning and loss of liberty—the Hitler State. The sympathies of British readers will be constantly aroused by the obvious sufferings and gallant reactions out of which such works as this have grown. But on purely theoretical grounds they may well wonder whether the basis of the argument is wide and deep enough. The difficulties which we consider most pertinent to state finance-fluctuations in employment and output, monopoly restriction, rates of saving and investment—these get no attention. Yet they impose the need for a more radical analysis of the relation of the individual to society than can be achieved on the basis of nostalgia for " avant 1914." Absolute individual rights within the permitted spheres are hardly an adequate solution to-day. Again, the moneyless community is a mere hypothesis. We all have to accept some risk of depreciation; and the claim to an absolute individual right to an unchanged return for his money is unrealistic. It is a question of how much we should tolerate. And here we can certainly all agree with M. Rueff that the effects and extent of such " lying " finance should be patent and understood; and that taxation or voluntary loan, or democratically authorised restriction by government, are the honest and wise, and should be the normal and predominant, methods of finance. The French is not easy, and perhaps only specialists should be encouraged to tackle this long journey. The author admits to considerable repetition, so eager is he to drive home his lesson. But the occasional sidelights on recent French conditions will make a warmer appeal to the interest and sympathy of British readers than the mere logic of the argument.]

ZEELAND (P. van). Belgique et Occident Européen. Paris: Éditions Spid, 1945. 7″. Pp. 53.

[Another lecture in the series published by the Comité d'Action Économique et Douanière.]

Spanish.

BERNACER (G.). La Doctrina Funcional del Dinero. Madrid: Instituto de Economía " Sancho de Moncada," 1945. 8½″. Pp. 364.

[To be reviewed.]

Swedish.

Åkerman (J.). Ekonomisk Teori. I. De Ekonomiska Kalkylerna. 1939. Pp. 286. II. Kausalanalys av det Ekonomiska Skeendet. 1944. Pp. 661. Lund: C. W. K. Gleerups Forlag. 9½″.

[To be reviewed.]

Wold (Herman). A Synthesis of Pure Demand Analysis. Parts I, II and III. Uppsala: Almqvist & Wiksells Boktryckeri, 1943 and 1944. 9″. Pp. 33, 43 and 51.

[Reviewed in this issue.]

Swiss.

Amonn (A.). Das Lohnproblem. Berne: A. Francke AG Verlag, 1945. 8″. Pp. 78.

[To be reviewed.]

Amonn (A.). Volkswirtschaftliche Grundbegriffe und Grundprobleme. Berne: Verlag A. Francke AG, 1944. 9″. Pp. 221.

[To be reviewed.]

Böhi (H.). Grundsätze und Methoden zur Ermittlung der richtigem Währungsrelation zum Ausland. Berne: A. Francke AG Verlag, 1944. 9″. Pp. 175.

[To be reviewed.]

Böhler (E.). Grundlehren der Nationalökonomie. Berne: Verlag A. Francke AG, 1944. 9″. Pp. 240.

[To be reviewed.]

Kaulla (R.). Beiträge zur Entstehungsgeschichte des Geldes. Berne: A. Francke AG Verlag, 1945. 8½″. Pp. 68.

[To be reviewed.]

Marbach (F.). Theorie des Mittelstandes. Berne: Verlag A. Francke AG, 1942. 8½″. Pp. 425.

[To be reviewed.]

Rohner (K.). Die schweizerischen Wirtschaftsvertretungen im Ausland. Berne: Verlag A. Francke AG, 1944. 9″. Pp. x + 136.

[To be reviewed.]

Salin (E.). Geschichte der Volkswirtschaftslehre. Berne: Verlag A. Francke AG, 1944. 9″. Pp. 224.

[To be reviewed.]

Schwenter (J. J.). Kapitalexport und zwischenstaatliche Warenbewegungen. Berne: Verlag A. Francke AG, 1945. 9″. Pp. viii + 90.

[To be reviewed.]

Official.

British.

Location and Effects of Wartime Industrial Expansion in Canada, 1939–1944. Ottawa: Department of Reconstruction and Supply, 1946. 14″. Pp. vi + 65.

[A roneo-ed Report, complementary to the Canadian Government White Paper on Employment and Income, which gives in detail the changes in the industrial employment and its location which have resulted from the war.]

Annual Statement of the Trade of Southern Rhodesia with British Countries and Foreign Countries, 1944, compared with the Year 1943. Salisbury: S. R. G. Stationery Office, 1945. 13″. Pp. 150.

Report of the Commission of Enquiry into the Mining Industry of Southern Rhodesia. The Rhodesian Printing and Publishing Company Ltd., for the Government Stationery Office, 1945. 13″. Pp. 80 + xvii.

[This Report of a Committee under the Chairmanship of Professor S. H. Frankel is mainly concerned with various aspects of the problem of mining in Southern Rhodesia—the decline in gold production, the effects of taxation on mining enterprise, the supply of native labour, of power, and so on. But it contains a great deal of other valuable information regarding the general economy of Southern Rhodesia, including national income estimates for the years 1924–1943. These, it is interesting to note, omit all the output of native self-subsistence agriculture, chiefly on the ground of lack of information.]

Report on the Development of Secondary Industries in Northern Rhodesia. By W. J. Busschau. Lusaka: Government Printer, 1945. 9½″. Pp. 91. *2s. 6d.*

[At first sight it seems faintly ridiculous that a country which has a European population of under 20,000—about that of an English country town—and a native population of less than 1½ millions should be pursuing the fashionable idea of expanding its secondary industries. Northern Rhodesia has grown rich on unequalled copper resources, and there have been few instances in which specialisation has been more profitable. But the territory suffers from every oscillation in the copper market, and runs the risk of developing its population and services on the basis of a wasting asset. Some search for secondary industries is therefore defensible. The search, however, has not been very successful. For the truth is that the scale of the market permits of few profitable developments on local account, and distances and high transport costs make developments for world markets equally unprofitable. While the Report has a few minor suggestions to make it holds out little real hope to anyone who will read between the lines.]

League of Nations.

Industrialization and Foreign Trade. Geneva: League of Nations (London: Allen and Unwin), 1945. 9″. Pp. 171. *7s. 6d.*

[To be reviewed.]

MOORE (W. E.). Economic Demography of Eastern and Southern Europe. Geneva: League of Nations (New York: Columbia University Press; London: Allen & Unwin), 1945. 9″. Pp. 299. $3.00.

[To be reviewed.]

THE ECONOMIC JOURNAL

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THE NEED FOR FAITH [1]

It is a paradox that, as Economic Science has progressed, it seems to have become less authoritative. The authority which economists possessed in public affairs a century ago is neither claimed by them nor conceded by the public. They waver in their advocacy, and retire or compromise apologetically when challenged.

Why is that? The answer, I believe, is to be found in a dissociation of their reasoning from any accepted ethical background. The sturdy confidence which they used to share with the philosophers of the Utilitarian School has ebbed away.

The meaning of the word "faith" in common usage has perhaps been deflected by a too-familiar association with the antithesis between faith and reason. Faith means trust, and in some connections it is undoubtedly right to contrast opinions taken on trust with those based on direct perception or valid inference, or at any rate subjected to rational criticism.

The conflict between faith and reason is encountered when anyone finds a belief in which he has trusted to be inconsistent with something that claims to be demonstrated truth. Faith may be misplaced, and the conflict may cause it to be revised. He who refuses to revise his opinion, and yet cannot reconcile it with incontestable truth, is forsaking the guidance of reason.

I am by no means proposing to commend unyielding faith of that kind to economists. They should undoubtedly be ready at all times to revise their opinions and theories in the light, not only of fresh experience and fresh facts, but of fresh reasoning and criticism.

Where, then, is there room for faith? How is it possible to feel trust in opinions thus avowedly open to revision?

Faith attaches to opinions in their bearing upon *action*. So long as belief has no relation to any practical decision, the ques-

[1] Presidential address delivered at the Annual Meeting of the Royal Economic Society on July 4, 1946.

tion of faith in it does not arise. Action, when willed, presupposes belief on the one hand in the desirability of the end to which it is directed, on the other in the efficacy of the means. And faith in these beliefs is a condition of their bearing fruit in action.

Faith therefore does not imply certainty. Action often has to be based on hypothesis. There is faith in the right estimate of probabilities as well as in ascertainable truths.

Economic truth is concerned with action. Professor Robbins defines the subject-matter of economics as the selection of scarce or limited means for desired ends. I have sometimes criticised his definition as being a little too wide. But at any rate it clearly brings out the direct relation of economics to action. I am inclined to take a more rough and ready definition, and to say that the subject-matter of economics is *work*. That does not differ very materially from Marshall's definition, "man's actions in the ordinary business of life." Work is the ordinary business of life. But, whatever definition is chosen, it is beyond dispute that economic science is concerned with ends and means, and therefore with action.

Economists may indeed pursue the exploration of pure theory into regions far removed from practical life. They may employ hypotheses which are not intended to form the basis of action, but to supply an exclusively academic or intellectual interest. But still the hypotheses are hypotheses of action, of means, ends, and motives. And, however far such theorising may stray from the practical, it nevertheless derives even its intellectual interest from the possibility of a practical application. If it is the solution of a puzzle, the practical application is part of the conditions of the puzzle.

The theorising is a by-path, diverging from the economic highway in pursuit of its hypotheses, but, if it is to be within the bounds of economic science at all, it must eventually return to the highway.

For example, the problems of perfect competition, of imperfect competition and of monopoly can be worked out on a dialectical or mathematical plane, so as to form a self-contained piece of pure theory. If the theory were an intellectual exercise and no more, it would not be economics. What places the theory within the bounds of economics, and gives it its intellectual interest, is the bearing it has on real life, the approximation to the actual conditions in which people carry on business.

Similarly Utopias are invented, not as mere fiction, but in

order to suggest by contrast something which might be done to improve actual human institutions.

It is in the application of thought to action that faith is needed, and the function of the economist is the application of thought to action within the limits of his science. He may not himself ever be called upon to give practical advice, but what he writes or teaches is surely intended to enlighten his readers and hearers; if they rely on his guidance when they come to make decisions, he bears at second hand some of the responsibility for applying thought to action.

Theorising involves taking much for granted. Thorough exploration of a line of reasoning or analysis requires concentration to the exclusion of side issues. Often it calls for a high degree of abstraction, so that the conclusion is an inference from a very limited selection of premises.

Practical application demands the abandonment of this intellectual insulation. The reintroduction of all that has been excluded, the merging of the limited abstract in the infinite real, transcends the capacity of rigorous inference and exact calculation. Instead there has to be an exercise of judgment.

Judgment is the kind of insight which discerns aspects in a whole without taking separate account of its parts or components. Judgment estimates the number of a crowd or flock; precision counts them. Judgment estimates the passage of time; science measures it by the oscillations of a pendulum or a balance spring.

These are quantitative judgments. But the same distinction applies where the precision is in reasoning rather than in calculation. Judgment tells that a monopoly is oppressive; systematic thinking shows the connection between monopolistic gains and the assumed conditions of supply, of demand and of market organisation. Judgment tells that increased supply of monetary metal will lower the purchasing power of the money unit, and raise prices. Systematic thinking formulates on one side the quantity theory of money, on the other, a theory of monetary dynamics.

It is the function of science to reinforce judgment with systematic thinking. It is foolish to depend on the approximations and guesses of judgment in any matter in which exact truth is ascertainable. Systematic thinking narrows the area within which reliance has to be placed on judgment.

The systematic thinking of economics is about human behaviour; its assumptions are about human nature. We can all make assumptions about human nature. We look into our own minds, the propensities we find in ourselves, the experiences we

undergo and our reactions to them. In the light of our self-knowledge we interpret the behaviour of our neighbours and all that we hear, read or learn of the communities we live in and of mankind in past and present.

In framing a hypothesis about how people will behave, the economist's first question must be, how he himself would be likely to act. A single individual is an inadequate sample of the human race, and he will widen the sample by taking in what he has observed or learnt of the behaviour of others, and what they have revealed of the motives by which they are guided.

That is the kind of material from which the economist derives the premises of his reasoning—in itself rather fragmentary and dubious material. But even from the most tentative assumptions it is possible to reason rigorously, and the conclusions supply the means of testing the assumptions. If the conclusions do not fit the facts, then the assumptions have to be revised.

The classical economists saw the business of profit-making in competitive markets going on around them. Sales and services rendered in return for pecuniary gains were a familiar feature of their own lives and of those of their neighbours. From the hypothesis of enlightened self-interest in the economic man, Adam Smith deduced his doctrine of the invisible hand, which leads the man who intends only his own gain to promote a public interest which was no part of his intention.

If everyone spent his money on what he preferred, demand would elicit the appropriate supply, and production would be directed to the maximum of satisfaction; free competition would ensure (in the field of material possessions) the greatest happiness of the greatest number.

A most attractive conclusion! Based on a simple train of reasoning, it came to be accepted by the orthodox economics of the nineteenth century as the clue to all practical economic problems. Even where departures from free competition were demanded, the case had to be made out for an exception.

It was this principle, so intelligible, so convincing, so universally applicable, that inspired the economists of the nineteenth century with faith. It seemed inconceivable that a principle which threw such a flood of light on the most intricate problems of practical legislation could be anything but unassailable truth.

There was much in the economic doctrine of the period that was ill-considered or fallacious. We wonder now how anyone can have swallowed the theories of capital and of wages then accepted. But the doctrine of free competition offered a firm

foundation on which everyone was willing to build. An economist asked to advise on any legislative project would confidently apply the criteria of free competition in supply and demand.

In the course of the nineteenth century there were developments of economic theory which on the whole tended to confirm this faith. The balance of supply and demand and the principle of maximum satisfaction were expressed in more rigorous terms through marginal analysis. The clumsy makeshift theories of capital and wages gave place to analysis in terms of marginal yield.

The doctrine of free competition in supply and demand was no longer so simple, but, when understood, was more convincing than ever. Economic faith was better established at the beginning of the twentieth century than it had ever been.

Yet somehow it has been weakened—almost extinguished.

Free competition, it will be said, has been discredited. It has indeed been exposed to attack from several quarters.

Large-scale production has given rise to monopolies, none the less effective for receiving no support from legal restriction. When free enterprise itself extinguishes competition, let-do is stultified.

Unemployment offered another opening for attack. According to theory, unemployment was a symptom of an excess of the supply of labour over the demand, and ought to be corrected by a spontaneous fall in the market price of labour. But experience showed that the fall in the market price of labour did not happen, or at any rate did not happen in time to save the victims from heart-breaking distress.

More deep-seated was the inequality that was found not to be inconsistent with free enterprise. In the iron law of the subsistence wage Ricardo and Malthus had presented Marx with a theoretical basis for his indictment of a hopeless inexorable inequality imposing dead poverty on all but a dominant few.

By the end of the nineteenth century economists had lived down the fallacies of the subsistence wage. But the inequality was a fact. The contrast between the easy gains of profit-making enterprise, and the hard-earned remuneration of the mass of wage-earners could not be denied, even though wages might rise far above the bare subsistence level.

Exponents of Adam Smith's thesis of the invisible hand found themselves open to all these lines of attack. The easy-going optimism, which had appealed in all circumstances to the simple principle that the free play of supply and demand cannot fail to make for the best, could no longer be sustained.

But that ought not to have shaken the intellectual self-reliance of the economists. The objections and difficulties raised against them did not contravene their reasoning about the working of supply and demand—to meet the objections, the line of reasoning had to be elaborated, not abandoned.

The invisible hand presupposed enlightened self-interest, but self-interest was not always enlightened. The economist had to take account of the frailties of human nature. Not only would the individual often pursue a very mistaken view of his own interest, but let-do left wide-open opportunities for the misuse of economic power, the power conferred by wealth itself, or the power acquired by concerted action among traders or work-people.

Especially the time element could not be ignored. The most convincing demonstration of the self-righting tendency of an economic system based on free competition gave poor consolation to people involved in loss and privation, and seeing the best years of their lives run to waste, while the tendency made agonisingly slow progress towards renewed equilibrium.

Of all these considerations economists were aware. They were alive to the many reservations and qualifications to which their basic principles were subject. The more their theories were elaborated and adjusted to the realities of life, the more confident they ought to have been in their own teaching. Why then did they lose confidence? The reason, I think, was that they had become accustomed to build without any adequate ethical foundation.

At the outset indeed the economists of the Classical School accepted the ethics of the utilitarian philosophy. For them good meant happiness, and everyone was the best judge of his own happiness. He might judge wrong, but he could only learn by experience if he were left to suffer the consequences of his own mistakes.

Let-do in economics was only a particular application of a principle of individualism, which extended over the whole field of morality, politics and social organisation. Political institutions, social practices, moral codes, all were means of promoting happiness, to be challenged and justified by that test.

This individualism was in itself an important and very positive contribution to ethical philosophy, but to economists it gave not a positive foundation but a way of escape from committing themselves. They could leave the whole vast question of true values, the right ends of action, on one side, as a matter on which the

individual had to judge for himself, and which therefore economic science had to take as *given*.

They were left with a limited end, the pursuit of wealth. Consequently their conclusions were subject to the same limitation as their premises, and nothing that they advised or advocated could ever claim *unqualified* validity.

Professor Pigou, in his *Economics of Welfare*, defined economic welfare to be "that part of social welfare that can be brought directly or indirectly into relation with the measuring rod of money." He recognised that the study of a part of welfare could never give conclusive guidance to the attainment of the whole, but he maintained that there is "a presumption . . . that qualitative conclusions about the effect of an economic cause upon economic welfare will hold good also of the effect on total welfare."

So long as the presumption was tacitly and confidently accepted as axiomatic, economists were in a position to give authoritative guidance. The presumption was challenged even in the nineteenth century by heretics such as Carlyle, Ruskin, and Morris, but they never themselves understood enough of economics to make their attacks convincing. No one denied that, where the pursuit of wealth conflicted with the rules of morality, the rules of morality ought to prevail, and it was freely admitted that, however useful self-seeking might be as a stimulus to desirable economic activity, it was not to be commended beyond the bounds of that principle.

Nevertheless the explicit recognition of the fact that economic welfare was only a part of welfare did something to weaken the defence of the economists against attacks from other quarters. Their self-confidence was diminished. There was an admitted gap between their conclusions and the concrete reality, and there was no more than a presumption that their conclusions could be safely applied to practical life.

The immediate attack was upon their own ground within their admitted limitations. For, even if it were agreed that an acquisitive society, in which each person's end of action was the acquisition of wealth by himself, would realise the maximum possible production of wealth, yet the inequality of distribution might be such that the maximum of wealth would be far from producing the maximum of material welfare.

The economist might reply that inequality was inherent in the system. If the acquisition of wealth was to be the incentive of economic action, the wealth must be apportioned according to

the merits of the action. Those who contribute more to the total of wealth must acquire more; those who contribute less must acquire less. The system is one of rewards and punishments. Success is rewarded by plenty; failure is penalised by privation.

That was a defence of *some* inequality. The extreme communistic idea of a complete dissociation of remuneration from merit is not reconcilable with the traditions, prejudices and propensities of mankind. But inequality is a matter of degree. Given the kind and the degree of discrimination in remuneration which will stimulate people to make their best contribution to the community's need of work, any greater inequality is a defect of distribution.

As Professor Pigou puts the familiar principle: "Any transference of income from a relatively rich man to a relatively poor man of similar temperament, since it enables more intense wants to be satisfied at the expense of less intense wants, must increase the aggregate sum of satisfaction."

The invisible hand did not settle everything. Its distribution of wealth might have to be corrected and amended. When Professor Pigou wrote the *Economics of Welfare*, the development of social services at the cost of high direct taxation was in full swing. It was a policy which any economist could commend. But economic reasoning gave no guidance as to its *limits*. *Any* move towards distribution solely according to needs, without regard to deserts, would "increase the aggregate sum of satisfaction." At some stage the incentives offered by the pursuit of wealth would be extinguished, but there was no way of ascertaining the limit except by trial and error. And the method of trial and error is not a desirable way of discovering poisons.

There has resulted much sterile controversy in regard to the need of the profit motive as a stimulus to enterprise. Profit-making is the principal source of the inequality which is the object of attack. Collectivism means the suppression of profit-making, and the supersession of private enterprise by State enterprise. Any one is free to take a view as to how human nature would react to collectivism; economic science can supply rigorous analysis of the hypotheses represented by such views, but cannot pronounce as to their validity.

The diffident approach of the economist whose faith in the invisible hand has been undermined is in sharp contrast to the passionate conviction of the communist. Nevertheless they both enter the controversy on one and the same moral plane. The communist, like the economist, is thinking in terms of wealth,

that is, of that part of welfare which possesses exchange value in terms of the measuring rod of money, and he is therefore exposed to the same criticism. Communism, however, is not a science, but a movement; it has not the same intellectual responsibility as economic science.

The materialism inherited by communists from Marx is not really essential to communism. But the inequality attacked by communism has been from the beginning inequality in the distribution of wealth. Wealth has been assumed to be not merely a part of welfare, but *the* part that matters.

Exchange value supplies the means of measuring wealth. It measures in terms of money, and one of the fundamental axioms of economics is that money is not wealth. The distinction between real values, real incomes, real wages on the one hand and money values, money incomes, money wages, on the other, remains fundamental. Money is not an end but the means of acquiring wealth, and has no other virtue than in its discharge of that purpose.

But is wealth so real? Wealth is measured by exchange value. Exchange value is determined by purchase and sale in markets. It arises out of *change of ownership*, and attaches not to things in themselves but to the ownership of things.

Exclusive ownership is a necessary condition of consumption of some of the products of work (though not of all); the consumption of an article of food is exclusive to the consumer, and there are many other products of which that is true. The division of labour requires some principles of distribution by which the enjoyment of the product is apportioned. Exchange of ownership by way of purchase and sale through markets is one method of distribution. Thereby exchange value, a market price or valuation in terms of money units, is imputed to the things exchanged.

Economic theory in its very earliest developments distinguished between value in exchange and value in use. It was value in exchange that made wealth measurable.

Value in use on the other hand was really an ethical concept; it was the value attributed to any product as the means of desirable experiences. As economic theory developed, the measurability of value in exchange was projected into value in use. The purchaser's selection of what he spends his money on is due to his preference, and in modern economic theory the preference is deemed to be in respect of a measurable quality of utility. The utility of anything acquired by a rational purchaser must not be less than the price he paid.

In making utility numerically measurable, the economist was assuming too much. A moral philosopher may hold that value in the ethical sense is measurable, but that is a matter of speculation and controversy. A quality which is susceptible of comparative degrees, greater or less, is not necessarily numerically measurable. And as a matter of psychological fact, the preferences exercised by purchasers are not accompanied by any definite estimate of the utility of the thing acquired in comparison with the price. It is enough that the thing is *at least* worth having at the cost.

The theory of the consumer's surplus or consumer's rent, imputing to every product acquired a value corresponding to the highest price the purchaser would have paid rather than do without it, is a matter of unverifiable hypothesis. In its application to something indispensable to life it breaks down. A man will offer all he possesses in exchange for that which will save him from dying of want, but what he has to offer is not in any intelligible sense a measure of the utility of the thing needed.

Whether value in the ethical sense is measurable or not, it is something very different from the quality of utility imputed by economics to that which is priced.

The possession of money is a potential possession of wealth. Wealth, it is said, is the substance and money the shadow. But the possession of wealth itself is no more than the potentiality of the desirable experiences of which wealth is the vehicle. Ownership of the wealth is a step nearer to enjoyment, but it is still not the substance.

Money gives the possessor a command over the work done by his neighbours, a command which he exercises through markets by spending. If he spends wisely, he is directing the work done to desirable ends.

The first charge on everyone's spending is the acquisition of the necessaries of life. Work, with its derivatives production and wealth, possesses a unique importance as the indispensable means of maintaining life and health. But here life is in itself no more than the field in which the good life may be planted. In primitive communities, or in those where population outstrips the means of subsistence, economic activity may do little more than support bare life.

Now it is especially in the staple means of subsistence that consumption is exclusive to the individual, and necessitates exclusive ownership. When productive power is extended, and

work is directed to ends beyond bare life, ownership of the product becomes less essential to enjoyment.

The protection given by clothes is exclusive to those who use them. But when people are not satisfied with a mere covering, and provide themselves with fine clothes pleasing to the eye, the enjoyment is shared by all who meet them.

Exclusive ownership still obtrudes itself. Limitations of time and space restrict the numbers that can share an experience, even when consumption is not exclusive to an individual, and ownership often confers authority to decide who may share it.

The desire to share is a deep-seated propensity of human nature. It is the natural reaction of any one who encounters a desirable experience. He who enjoys anything beautiful, interesting, or humorous wants to find others who will appreciate and enjoy the same experience. The owner of a fine house or garden likes to share its amenities with his friends. Even where consumption is exclusive, the same motive operates; ownership of a supply sufficient for several consumers gives power to decide who shall share. The employer of a good cook shares the culinary pleasures which he commands by inviting guests to a meal.

Thus abundance may itself transfer a product from the class in which exclusive possession is coveted to that in which this desire to share predominates.

This desire to share is clear evidence that the good which goes to make the good life is not merely your good or my good or his good, but simply good.

In an acquisitive society the right to share in a desirable experience may be the subject of sale in a market. But that does not mean that the desire that what is good shall be shared is absent. The producer of a concert or a dramatic entertainment desires that many may appreciate and enjoy it. The author of a book desires that many may read it.

Payment for seats at an entertainment or for copies of a book provides those who do the work with remuneration for the services they render. Consumption is exclusive not to a single individual but to the numbers that conditions of time, space or supplies will allow to share. Payment is an incident of the selection of limited means for desirable ends.

The price exacted bears no other relation to the desirability of the experience shared.

A man's income is the reward he receives for the services rendered by himself or by his property to production. He receives it in the form of money, and by spending the money he

acquires wealth in exchange. It may be for his exclusive consumption. But it may on the contrary be for sharing with his fellows. The pressure for exclusive consumption is characteristic of conditions of scarcity or poverty. Abundance relaxes the pressure, and allows more scope to the kind of enjoyment which is shared. The ownership which is the subject of exchange becomes less self-seeking.

To a seller, the wealth he holds for sale is further removed from fruition than the money he gets for it. Wealth can only claim a higher degree of reality than money when it is in the hands not of a seller but of one who has selected it for consumption or enjoyment.

I do not mean to suggest that economists are unaware of the limitations of wealth. But so long as they reason in terms of wealth the application of their conclusions to practical life is qualified by these limitations. If they are to speak with conviction and to carry conviction to their hearers, they must discard the limitations. It does not follow that economics ought to be a branch of applied ethics, and that every economist must become a philosopher. Every man has to decide his courses by reference to ethical standards. He is taught to conform to the moral code which forbids fraud, violence and vice, but a code of prohibitions is not enough; he has to select positive ends and the means to attain them.

The ethical problems of the economist are merely an extension of the ethical problems of the individual. His assumptions and reasoning are open to the criticisms of the philosopher, but only in the same way as those of the individual. It is right for the economist, as for the individual, to have regard to those criticisms. If the economist derives benefit from an understanding of philosophy, he is in that respect in the same position as people in general.

Faith is a condition of belief taking effect in action, and, as I said at the outset, what is needed is faith both in the rightness of the end and in the efficacy of the means. The moral teaching of the Churches and of the great religions is primarily concerned with rules of conduct. They treat compliance with moral rules as itself an end. But if they claim faith from the adherents, it is because the conduct they enjoin is after all the means to desirable ends. The nature of the desirable ends themselves is taken for granted. Christianity bids us promote our neighbours' welfare, but what welfare consists in is left to the individual judgment.

If liberty is set up as an ideal, that is on the ground that the best way of promoting the welfare of all is to leave everyone free

to pursue his own welfare, subject to the limitations imposed by morality and law; Adam Smith's "invisible hand" was an adaptation of that principle.

The principle of liberty has not been superseded; it still holds the field as the primary condition of a good life. But it needs to be qualified and supplemented. The organised action of the community can in many respects improve upon what the limited outlook of the individual would achieve.

It is here that the guidance of economic science becomes applicable. Institutions have to be devised which will direct people's capacity for work to desirable ends. The doctrine of the invisible hand justified let-do as an institution fulfilling that condition. Now that we recognise the limitations of let-do, we have to apply the same criterion to other forms of economic policy.

If the economist's conclusions are to command faith, they must be directed to right ends. And surely a fundamental condition of any faith is that there *are* right ends. Whoever denies that there are right ends to be sought stultifies all action. We are shy of naming our ends. Language is over-full of ill-defined terms. The plain "good" and "bad" have been vitiated in use by a perpetual confusion of end and means. To indicate ends, we fall back on such expressions as "welfare" or "desirable." Or we call an experience which is desirable as an end "worth while." Worth *while* is something different from worth a *price*. It means worth time, not worth money. It is free therefore from the implications of exchange and exclusive ownership, of comparison and measurement. Worth while implies at least a minimum of desirability, but it does not exclude any degree of desirability, be it ever so high.

Right ends are those which are worth while. When selection is necessary, and preference has to be exercised, the end which is best worth while is right. Self-reliance in action pre-supposes faith in the selection. Likewise self-reliance in economic policy.

Self-reliance requires confidence in the means as well as in the end. The right selection of means in economic policy calls for scientific method in systematic thinking. If economists are wanting in faith, may it not be on this side that they are assailed by doubts? They start with crude and fragmentary assumptions about human nature. Verification of their hypotheses by experience encounters the baffling complexities of real life.

The complexities are mainly in the springs of action—man seeks ends, but not only right ends. Along with what is desirable

or worth while, he is moved by infinitely various propensities and prejudices, some of instinct, some of habit, some of shallow, faulty or eccentric reasoning. But it is only the right ends that are destined to give satisfaction in fruition. The right ends give a fundamental unity to the problem of human behaviour. If that clue be consistently followed, all the vagaries of human nature can be allowed for, as departures more or less wide from the strait path.

So even in exploring human motives and behaviour a cognisance of right ends is the foundation of firm and confident conclusions.

Every economic problem has a solution. To every question there is a right answer, even if it be in a choice of evils. The solution is the *relatively* best course, *relatively* to the given circumstances. The standards by which the selection is to be made are not merely relative.

Economic reasoning, like all reasoning, is fallible. By conforming to scientific standards it can be given such precision as is humanly attainable, and can claim the same kind of confidence as other sciences. It is in its contact with practical life that it needs an ethical foundation. Not that the ethical foundation can be infallible. But if economic doctrine is to carry conviction it must proceed from a conception of welfare, in the widest and deepest sense, as well considered as the conduct of men in general. Theory which professes to dispense with that essential requirement is vanity and striving after wind.

Economists are of course often called on to consider limited ends. The policy is given, and they are asked to advise on the means. For example a colonisation scheme may be desired for the settlement of territory which is available for development. The decision to colonise the territory is prejudged, and is not open to criticism. Nevertheless, within the limits set, the standards of what is desirable still apply.

If there is a passage in the *Wealth of Nations* more often quoted than that referring to the invisible hand, it is Adam Smith's admission that Defence is of much more importance than Opulence. Defence is a limited end, but of such importance as to claim priority over the aim of welfare. The twentieth century has seen strenuous efforts to free mankind from the International Anarchy. But so long as the International Anarchy exists, every nation must maintain organised force to withstand attack from any other. The means of defence of each is a menace to the safety of the rest.

War is an industry. Organised force is maintained by work; it demands the diversion of work and wealth from other aims. If wealth has gained and retained a better repute in the eyes of the world than its merits as a vehicle of welfare justify, that is because wealth is the means of power. Wealth is the ownership, actual or potential, of work and of the products of work. And economic power resides above all in *potential* ownership, the productive resources that can be diverted to new purposes, and the pecuniary resources by which that diversion is operated.

Money is the indispensable means of economic mobilisation. Not merely do external funds and investments afford the means of obtaining resources from abroad, but even at home money supplies the necessary mechanism for directing work where it is required. Other and more elemental motives take the centre of the stage, but no substitute has been found for the pecuniary motive in its own sphere.

Here, then, are wealth and money rehabilitated! Yes, but only for a limited purpose. And no limited purpose can supersede the foundation of right ends. It is the virtue of faith not to move mountains but to move mankind. Faith spreads from teacher to learner, from speaker to hearer, from writer to reader. To do so, it must proceed from ground common to all.

And that common ground must in ultimate analysis be a common standard of what is good or bad. Only what is good or bad is important, and important in proportion as it is either good or bad, whether as end or as means. And what is not important does not matter.

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UNEMPLOYMENT IN AN UNPLANNED ECONOMY

SINCE the publication of J. M. Keynes's *General Theory* in 1936 there has been a rapid development in the theory of unemployment—or, as it is known more recently, of "full employment"; and with the publication of, in particular, Mr. Kaldor's Appendix to Sir William Beveridge's *Full Employment in a Free Society* we have reached the stage at which the measures needed to overcome the so-called "deficiency of demand" have been reduced to concrete mathematical terms. In spite of this apparent simplifying of the problem, however, we cannot avoid the impression that there is still a sort of impassable gulf separating theory and practice; that the theories which have been so eloquently and persuasively argued for a whole decade and have now finally replaced the old orthodoxy, would still encounter very strong opposition from business interests if put into actual operation; and that even the present Government is still hesitating to commit itself to a thorough-going application of the "full-employment" technique.

It is true that all these facts could be explained plausibly enough by the fundamental conservatism of the British character, by the unwillingness to launch out into bold experiments in a field in which the nation's bread and butter are at stake, or by the purely temporary phenomenon of a restocking boom during which the authorities are more preoccupied with the dangers of inflation than with the threat of unemployment. But these considerations do not explain everything. If the measures required to ensure full employment *in perpetuum* were as simple and as mathematically certain as they are made to appear in the writings of the modern Keynesians, there would be very little reason to account for the continuing resistance to their application. We cannot escape the impression that the Keynesian analysis, for all the light which it has shed on the dark corners of economic science, has yet failed to reach to the most fundamental causes of things; and that therefore the simple remedies of the Keynesian physicians would not touch the roots of the disease which is afflicting the modern free enterprise economy. Whether this impression is correct, however, depends on a closer examination of the Keynesian theory and of the facts with which it deals.

I

The foundation stone of the *General Theory* is the following set of relations :

$$\text{Income} = \text{Consumption} + \text{Investment}$$
$$\text{or } Y = C + I$$

But C is dependent on Y, in accordance with the rule of the propensity to consume. Hence if the marginal propensity to consume for a given level of income is m

$$Y = m \,.\, Y + I$$

or

$$Y = \frac{1}{1 - m} \,.\, I.$$

The level of income (and hence of employment) is therefore uniquely determined by :

m—the marginal propensity to consume,
and I—the level of investment.

At this point the path divides and further analysis is devoted to the determinants of m and I respectively; and we are led to the conclusion that full employment can be provided by (1) increasing the marginal propensity to consume—*e.g.*, by a redistribution of income, and (2) raising the level of investment—*e.g.*, by deficit expenditure.

That is as far as the analysis has been taken. Quite a number of subsidiary problems, such as the mobility and remuneration of labour, international aspects of full employment, and the growth of the national debt, have been studied in detail; the main lines of the argument have got no farther. But it is precisely when the argument is followed through into the practical sphere that the limitations of the Keynesian analysis are strikingly revealed. Redistribution of incomes means essentially one thing : reduction of profit and increase of wages. Deficit budgetting may on the face of things seem innocuous enough; but in a practical sense it can mean only either borrowing from the rich to give to the poor —when used to increase social security payments, etc.—or borrowing from the rich in order to enter into competition with them. The operation of a full-employment policy strikes eventually at the roots of the system of private enterprise. Both the redistribution of income and deficit budgetting are measures which cut into the rate of profit on capital: the former directly; the latter by setting up the State as a competitor with private enterprise. And the process is cumulative. The need for a full-

employment policy arises from the failure of private enterprise to keep up its level of new investment. The proposed remedies, by reducing the return on private capital, will tend to depress still further the scale of private investment, and thus increase the margin of unused resources which it will become the responsibility of the Government to absorb. The attempt to apply a genuine full-employment policy in conditions of economic crisis or chronic unemployment—such as existed between the wars—would very probably lead to a situation in which the issue would become—"free enterprise with unemployment" on the one side, versus "full employment under State planning" on the other.

The Keynesian analysis, however, gives us no clue to the existence of these profound difficulties; nor is this surprising, considering that little or no attention is paid to a matter of fundamental importance—namely, the rate of profit. Keynes took great trouble to define his "marginal efficiency of capital," so as to be sure to relate his system to the *expectations* of business-men, not simply to their experience *ex post.* But he did not attempt to explain the factors governing the rate of profit itself, which, after all, is the basis on which all expectations must rest. This, it will be found is the chief defect in his system; his categories fail to reveal the special rôle of profit; nor do they provide the way to explain how the rate of profit is determined.

The remainder of this article will be devoted to an attempt to restate the fundamental relations of a free enterprise economy along lines which will reveal the factors of chief importance in determining the level of employment.

II

We must first of all make clear with what sort of system we are concerned. It is a system in which there are two main classes: those who live on earned income—*i.e.*, wages and salaries—to whom we shall refer as "the workers," and those who live on unearned income—*i.e.*, rent, interest and profit—to whom we shall refer as "the capitalists." There are, of course, individuals who combine both these functions; but while there are plenty of workers who draw small quantities of interest, chiefly from Savings Banks and insurance and pension funds, and the majority of capitalists also do some work for which they either are paid a salary or would be entitled to a salary if they were not self-employed, the broad distinction between "the workers" and

"the capitalists" is really quite simple and needs no elaboration. For the sake of this discussion we shall ignore all intermediate classes—farmers, professional workers, small shopkeepers, etc.—and take it for granted that the typical economic unit is "the firm," the capital of which is privately owned by one or more capitalists and the output of which is produced by the workers. We shall also ignore for the time being the existence of the outside world and of the Government. The picture before us is that of an economic system in which there are so many firms, employing so many workers and owned by so many capitalists, while in the background there are subsidiary sections of capitalists drawing income in the form of rent and interest.

We proceed now to analyse the activity of this system and the flow of goods and money through its various arteries. We may say that the total output of the workers employed in making goods (or services) may be divided into goods for consumption and goods for investment. This is a mere question of definitions, for if we analyse the total output of a given year (X), we can say that part of it was consumed (Y), and part of it was not (Z). Z is what is called Investment (or, strictly speaking, *net* investment). $Z = X - Y$.

It will be noted that concepts of Consumption and Investment, as defined above, are in no way related to the distinction commonly drawn between "consumers' goods" and "producers' goods." For it is apparent that on the one hand a large quantity of "producers' goods" (machinery, raw materials, etc.) is made up into "consumers' goods," which are then consumed, while on the other hand there are frequently cases of "consumers' goods" being made and not being consumed—*i.e.*, stocks increase, or, in other words, there is an increase in investment. It will further be noted that X is positive, Y is positive, but Z may be positive or negative—*i.e.*, there may be an increase in total wealth during the year in question, or there may be a decrease. In the latter case Z is negative and Y is greater than X. This, of course, has been the case during the war.

Now, if the number of people employed in making Y is N_1, and the number of people employed in making Z is N_2, and the equivalent amounts paid out in wages and salaries is W_1 and W_2, then the cost of producing the goods consumed is W_1, and the total income of the workers is $W_1 + W_2$. If workers' savings are S, the total spent by workers on consumption is $(W_1 + W_2 - S)$; and if the amount spent by the capitalists on consumption is T, then the trading account for goods consumed is as follows:

Goods Consumed Account

Dr.		*Cr.*	
To Wages	W_1	By Sales to workers	$(W_1 + W_2 - S)$
To Gross Profit	$(W_2 - S + T)$	By Sales to capitalists	T
Total	$(W_1 + W_2 - S + T)$	Total	$(W_1 + W_2 - S + T)$

From the above it appears that the gross profit on goods consumed in the year is $(W_2 + T - S)$—*i.e.*, the sum of the amount paid out in wages and salaries to workers engaged on making goods for investment and the amount spent by the capitalists on consumption less the savings of the workers. It must be made clear. of course, that the figures used in this argument are aggregates; they take no account of individual changes as between one firm and another. Thus the profit on consumption $(W_2 + T - S)$ is the aggregate profit of all the firms making goods for consumption; it does not tell us anything about the individual fortunes of those firms. While industry as a whole may have made good profits, certain firms may not have done so, or may even have made losses. It is the aggregate figure which is of importance in discussing the problem of full employment.

Further, the figure $(W_2 + T - S)$ is a *gross* figure; before we arrive at "business" or *net* profits we must deduct payments made for rent and interest by the firms in question, which we shall call F. Then the net profits (available for distribution to holders of equities) amount to $(W_2 + T - S - F)$. Here, then, is what I shall call the "Profit Equation," around which all further analysis will be centred:

$$P = W_2 + T - S - F.$$

III

Why is this equation of fundamental importance? Because it isolates the crucial factor in the whole employment situation—namely, the net profit on goods entering into consumption. It is true that this does not comprise the total profit arising within the system; it excludes profits earned in the sphere of "net investment"—*i.e.*, on work which goes to swell the total wealth of the community. The rate of profit on net investment may well differ from that on goods for consumption, especially in periods of boom or depression, when the heavy industries are exceptionally over- or under-worked. One part of the profits on net investment, however, will accrue at the same rate as those earned in making goods for consumption—namely, the profits earned in making consumers' goods which are not for immediate consumption.

Clearly the conditions of supply of these goods (for the building up of stocks) will be similar to those governing the supply of goods which enter directly into consumption.

The variation in the rate of profit earned in the heavy industries, although not unimportant, is a subsidiary factor in the situation; it is a determinate, not a determinant. The index which chiefly governs the attitude of business-men (and after all has been said about "expectations," "psychology," "moods of pessimism," etc., it must be admitted that business-men, like other people, are more impressed by facts than by "theories") is the index of the rate of profit on goods for consumption. This is the thermometer which measures the health of the economy from the business-man's point of view. It is a measure of what may be expected from future productive activity. "Consumption —to repeat the obvious—is the sole end and object of all economic activity," wrote J. M. Keynes; and it is the level of earnings of capital in the production of goods for consumption that indicates whether the situation is "bright" or "gloomy" from the business-man's point of view.

It is on the basis of the experience of business in the production of goods for current consumption that decisions are made regarding the scope of new investment. If net profits on goods for consumption (which of course covers the great bulk of current activity) are "good," then decisions will normally be taken to increase investment. Special factors, such as monopoly, or political considerations, may interfere with this relation; but in general it remains true. The decision to expand investment may lead to full employment, or even to over-employment in certain industries, such as building and the machinery industry, which will then raise the rate of profit in those industries. This is a point which has to be taken into account in any analysis of the trade cycle; it has its repercussions on the general employment situation. But we still return to the fact that the governing factor in the situation is the rate of profit on the production of goods for consumption.

We have been using the term "rate of profit," which, of course, is a ratio, comprising two terms: the amount of profit and the amount of capital. In our "Profit Equation" we have only the first term, the amount of profit. Later on, we shall have to introduce the second term—the amount of capital—into the discussion; for the present, however, it is desirable to give attention to the equation as it stands.

The expression ($P = W_2 + T - S - F$) is no more than a

mathematical identity. It serves, however, to isolate the factors governing P; to provide a fulcrum on which our analysis can be based. That analysis can be made from either a short-term or a long-term point of view, or, what amounts to much the same thing, from the point of view of the variations of profit or from the point of view of the absolute level of profit. In the short term we are interested in sudden variations in profit which have such a profound effect on the system; in the long term we can ask ourselves why the rate of profit shows the downward trend that is observed.

IV

Taking the short-term aspect first, and looking at the four factors on the right-hand side of the equation from the point of view of their variability, we note that F, which consists of rent and interest, is by its nature practically fixed (except in so far as individual firms default on their payments under these heads and thereby reduce the total for the community). S, workers' savings, is not a fixed factor, but at the same time it probably does not make any violent changes. In so far as it does change, the change is likely to be gradual and in the same direction as employment and the national income as a whole. Its changes therefore are not independent, but dependent, and can be taken into account in particular cases after the more variable factors governing the employment situation have been determined.

The same applies, *mutatis mutandis*, to the factor T; with the exception that since gross profits generally vary more widely and more suddenly than wages and salaries, and that the capitalists are in any case in a position to vary their consumption expenditure with far greater freedom and by far greater proportions than the workers, we should expect T to react more rapidly and in greater degree than S to any change in the general economic situation.

It is the final item, W_2, that carries most of the weight. W_2 is the amount of money paid out to workers engaged in making goods for investment. It varies, therefore, directly with investment itself, probably representing two-thirds of the cost of new investment. Net investment is a very variable item : as was pointed out earlier, it may be negative as well as positive; and it is not unusual for net investment to vary, even apart from wars, from a large plus to an equally large minus in the course of a few years.

The short-term fluctuations in P can therefore be attributed

mainly to the factor W_2—which varies directly with net investment. W_2, however, will be large only in a situation in which W_1 is also large and employment is good. S will therefore tend to rise. Similarly the earnings (or expected earnings) of the capitalists will also be growing, and T will therefore grow. The changes in T and S will to some extent neutralise one another; the balance will probably rest on the side of T. F, as we have said, is more or less fixed, but in a period of rising employment and profits there will be fewer defaults, and F will therefore tend to be slightly greater. New contracts, for rent or interest, will also be made at higher rates, and will gradually tend to raise the level of F; but only with a considerable time lag. In sum, an increase in W_2 will probably mean an equal or greater rise in P; and vice versa.

The interest of this analysis is now revealed: changes in the level of profits (on goods for consumption) are directly dependent on changes in the level of new investment. And since change in the rate of profit is the main factor determining the general level of employment (and hence of income), we arrive at the same conclusion as that derived from the Keynesian analysis—namely, that the crucial factor determining income is investment. We have, however, arrived at this conclusion by more detailed steps and with closer reasoning; in particular, the category P has found its true place in the picture, as an essential connecting link. Keynes's "marginal efficiency of capital" is, in spite of the care which he devoted to it, an elusive sprite, "determined, as it is, by the uncontrollable and disobedient psychology of the business world." [1] It is the "sudden collapse in the marginal efficiency of capital" which is the chief explanation of the economic crisis; but we are left in doubt as to the factors responsible for these sudden movements. In our analysis, however, we can claim that the variations in P are not incalculable nor unpredictable; they provide a very substantial and concrete basis on which to explain the actual variations in business "confidence."

The relation $P = W_2 + T - S - F$ (which can also be written for short in the form $P = W_2$, provided the existence of the other factors is not forgotten) clearly provides an explanation of the inherent instability of the free enterprise system. For the two leading terms—P and W_2—are each dependent on one another. Say, for example, there is an increase in investment—which means an increase in W_2 and hence of P. The higher level of profits in the industries making goods for consumption will in

[1] *General Theory*, p. 317.

turn encourage optimism, and there will be a further rise in investment, and so of W_2. The process is therefore cumulative: activity and employment will increase in all sections of industry; and the more investment rises the higher will be the profits of current production.

What is the end of the story; and why should it have an end? The reason, I think, is the threat of the competition of the new capital with the old, which produces a critical situation, and a sudden reversal of expectations in the business world. This in turn is much modified in its results by a second factor, namely the degree of monopoly.

In a boom, business-men are rapidly expanding their commitments; their holdings of new investments are increasing. These investments are for the most part in industries which are in competition with existing industries, although during the earlier period of new capital construction this fact may be temporarily obscured. While some business-men will make their new investments in the form of an expansion to their existing plant, others will launch out into new spheres of activity. They will not have complete information as to the existing capacity in that industry; at any rate they will not know their competitors' plans for expansion. That is part of the logic of an unplanned economy. As time passes, however, and plans begin to mature, it will begin to dawn upon the men concerned that there is such an excess of new capacity coming into operation—all at once—that prices are bound to collapse. The new processes and the up-to-date plant which is coming in on the tidal wave of the boom will be able to afford to take prices well below those hitherto ruling in the market. There is nothing terrible in that *for the newcomer*; provided prices do not fall below the level at which his new plant can operate he will be satisfied. But for the old inhabitant of the market the new machinery spells disaster. His old plant will suddenly find itself high and dry—well above the supply curve for the industry—and he is threatened with the loss not merely of his profits, but, if the price falls below the level of marginal cost, with his capital also (for it is doubtful if he will be able to realise very much on its sale). If he is lucky, he will be able to make an agreement with his competitors to restrict production, maintain prices, and so keep his capital intact. But in any case he will have lost his enthusiasm for new investment; and the "marginal efficiency of capital" will have fallen very low indeed in his estimation. So the system will pass from a state of high expectations and confidence to one of abysmal depression.

An objection may be raised at this point that if business-men were not to react in this fashion, as they face the advancing tide of new productive capacity, but were bravely to face the issue, and continue to place new orders for plant and equipment, there would be no need for any crisis or ensuing collapse. For so long as W_2 is maintained, P also will be maintained, and the market will be in no danger. That is quite a legitimate observation; but it ignores the fundamental fact that the individual business-man has to choose his path on his own account and without knowing what his competitors will do; still less can he trust them to carry out a common policy of such a bold and hazardous character. He is compelled to take first thought for himself; and the upshot is that the devil takes all. No solution of this difficulty within the framework of free enterprise is conceivable.

It was stated above that a second factor in the situation is the degree of monopoly. The crisis, for the reasons outlined above, is inevitable; but its consequences, the depth and the length of the depression, depend on the degree of monopoly. Briefly, we may contrast the typical crisis of the mid-nineteenth century, which was followed by a short depression and then a recovery which carried economic activity well above the level reached in the same stage of the previous cycle, with the situation between the two Great Wars, when the rate of advance was very much slowed down. The explanation, as I see it, lies in the fact that the earlier period was one of true competition; not perhaps "perfect" competition, but the nearest to that blissful state that the world has yet known. In this state, a boom, with its accompanying flood of new investment, might lead to the ruin of hundreds of producers, knocked out by more modern and more efficient machinery, but for every failure there was an equivalent success, and while the losers might feel deeply "depressed" about future prospects, the winners would be feeling very pleased with themselves, and quite ready to start a new round in the battle. After a short period of digestion in which the new plant and equipment would be brought into operation, and the full effect of its competition brought to bear on the older inhabitants, the economy would be ready for a new wave of investment, which by the nature of the $P = W_2$ relation is bound to take the form of a boom rather than a steady increase.

Competition, however, is an unstable and inherently self-destructive state of affairs. Natural selection encourages the larger firm, which, as a general rule, is the more successful in the struggle. With the progress of the years the guildsman gives place to the

merchant and the manufacturer; steam replaces water; the division of labour grows; mass-production and the conveyor belt finally take control. And meantime the independent shop is replaced by the chain store; the local bank becomes a branch of the "Big Five"; and even the simplest services are performed by the agents of a national enterprise. In these latter days, in Britain at least, the boom has lost its old exuberance and the depression has become more prolonged and more highly organised. For with fewer and larger firms there is more knowledge about competitors' activities and it is less easy for newcomers to enter the field; in some cases it is practically impossible. While the inherent instability of the $P = W_2$ relation is therefore still present, aided by the lack of planning or co-ordination in the system, it is not so likely to lead to a prolonged and intensive boom as previously. Disillusionment comes sooner, before the economy has expanded to the full extent of its capacity; and when it does come it is not met as hitherto by wholesale bankruptcies, as in the days when there were hundreds of small competitors, but more often by an agreement between the competitors (only a handful in many cases) on restriction of production and maintenance of prices.

V

Having studied the implications of our equation from the short-term point of view, we may now proceed to discuss the long-term aspect. There are two factors affecting the long-term rate of profit: firstly, the amount of profit; secondly, the amount of capital employed. The latter point has hitherto been ignored as having comparatively little bearing on the short-term situation; but when we come to the long term it obviously has very great importance. In twenty years, for example, the total amount of capital, even though increasing slowly, may have doubled, with the result that unless there is an equivalent increase in the *amount* of profit earned, the *rate* of profit will have fallen. Now, in a progressive state, in which W_2 is positive, the annual increments to total capital employed will have a continuously depressing influence on the rate of profit, unless there is a compensating rise in P. Our problem therefore is to examine the long-term trend of P.

We must first note that in the long term the tendency will be for F to move parallel to P. The item rent may, it is true, show a secular tendency to increase, with the increase of population

and income; but it represents only a minor proportion of the whole. Interest, on the other hand, will move normally in the same direction as business profits. The margin between the two may vary with changes in commercial conditions and practice and with the so-called schedule of liquidity preferences. But since interest and profit are both in the final analysis different forms of return on the investment of capital, the general rule will be for them to move parallel. It will be better, therefore, if we transfer the item F to the left-hand side of the equation so as to give us gross profits (G), the movement of which in the long term will represent the direction of movement of P. So $G = W_2 + T - S$.

We shall assume for the purposes of illustration that the long-term period under discussion is one of increasing national income, both absolutely and per head. Taking the terms of the equation one by one we receive the following impressions: S will tend to rise, at least parallel with the increase of national income; T will also tend to rise on account of the increase of national income, but it may tend to fall on account of the gradual reduction in the size of the purely capitalist class (one person with an income of £2000 per year will probably spend less on consumption than two persons with incomes of £1000 per year each). Furthermore, with the growth of savings made by salaried persons for security, insurance, superannuation, etc., there may be an increasing proportion of income earned on capital which is automatically saved. The same tendency may be indicated by the growth of undistributed profits as a proportion of total profits, due in part at least to the favourable treatment of undistributed profits in respect of taxation. The analysis of T therefore is inconclusive; the weight of argument seems to fall on the side of a gradual fall in T over the long term. If this is so, the change in both the items T and $-S$ is negative and the whole burden of maintaining (and increasing) G rests on W_2.

W_2 is directly proportional to new investment. In the long term, therefore, the movement of gross profits is directly dependent on the scale of new investment activity, which, in order to maintain a given level of gross profits, must increase by at least as much as the fall in capitalist consumption plus the increase in workers' savings. And if it is desired to maintain a given *rate* of gross profit, then new investment must increase by an additional amount each year sufficient to compensate for the annual growth of the total value of capital employed. It is evident therefore that (unless there is a rise in T or a fall in S) the only possibility of maintaining a given rate of gross profit is through a steadily

increasing rate of new investment, an increase which will take the form of a geometrical progression.

There is in the long term, as in the short, an inherent element of instability about the system. A system which calls for a constantly increasing rate of new investment in order to maintain the existing rate of return on capital is one which seems on the face of it so absurdly unworkable that it is a miracle that it should have survived so long. There are, however, other factors which, in my opinion, have helped to overcome this difficulty in the past.

Under widely competitive conditions the repercussions of a general programme of investment are different from those arising in conditions of highly monopolistic competition. In a market of several hundred competitors there is little danger that the application of a new process will be made by all producers at once. The new plant brought into operation by the more advanced producers will undercut that operated by the more backward, and the gain of one producer will be at the expense of another, for whom the more fortunate has no feelings of responsibility, financial or otherwise. As the number of producers shrinks, however, it is less and less possible for one producer to gain a long lead on all the others; and even when he does do so, his competitors are financially strong and powerful enough to stand the racket for quite a time—long enough in many cases to overcome their handicap. Nor is it any longer so easy for a complete newcomer to penetrate the market, bringing with him nothing but his new equipment and having no vested interest in the old. In the days of smaller and more competitive units such invasions of foreign territory were quite feasible and were, of course, a great stimulus to the rate of investment. In the present generation a large firm has to weigh up many tricky possibilities before it launches out into new investment even in its own market. Can there be any guarantee that competitors will not follow suit? In that case the market may be glutted from all sides and no one will be the gainer. It is not surprising, therefore, that the big producers should be driven quite frequently towards the trade agreement on prices, output, and the rest, as the only means of preventing cut-throat competition and mutual impoverishment.

There is a further point of difference between competitive and monopolistic conditions, a point which has probably had even more bearing on the rate of new investment than those hitherto discussed. When a producer is undercut and beaten, not only does his successful rival accumulate his previous customers, who provide the additional revenue which justifies the new investment

made, but actual losses are incurred by the defeated firm. These losses provide a sort of premium to the system as a whole; the community benefits from the death of one of its members. Stated in terms of the symbols used above, the position is as follows: in the first instance a successful competitor acquires by his activities a greater proportion of the aggregate of profits of the community as a whole. These come out of W_2, T, etc.—*i.e.*, from the expenditure on consumption of the capitalists and those workers who are employed on making goods for investment. But if, in addition, an individual firm makes a trading loss, then there is a portion of that firm's W_1 payments which are in the hands of consumers and which are not needed to cover the cost side of the trading account. They become therefore, for the community as a whole, a net addition to profits.

Competition can claim a strange but vitally important quality: it is a system which grows by feeding on itself. The losing contestants in the struggle for existence are discarded and "liquidated," but their memory lives on; the bread which they have thrown upon the waters comes back to their successors as strength and sustenance and as a justification of the enterprise of the competitors who brought them to their doom. In this manner competition provides a stimulus to investment which overcomes the depressing factors previously examined; and in so far as W_2 is lifted to a higher level, so G also is automatically raised for the community as a whole. But in the period of increasing monopoly these advantages diminish; and today we live in the period in which the depressing factors reign supreme.

Having studied the Profit Equation from both the short- and the long-term points of view, it is time to summarise the argument. The interdependence of P and W_2 in the short term is the underlying cause of the instability typical of an unplanned economy. Boom conditions are cumulative up to the point at which the new capital threatens to destroy the earnings of the old. "Crisis" supervenes and the spiral reverses its action. The ensuing depression is longer and more severe under conditions of monopoly than in competition. In the long term the gross rate of profit is subject to the continuously depressing influence of the inability of investment to keep pace with (1) the growth of workers' savings, (2) the reduction in capitalist expenditure on consumption, and (3) the constantly increasing value of the total capital employed. These depressing influences are overcome in conditions of competition through the sacrifice of the defeated and the accrual of their losses to the benefit of the successful. With the

passing of these conditions the long-term depressing influence on the rate of profit is reinstated.

VI

We can now return to the Keynesians. When interpreted in terms of our fundamental equation their prescription amounts to this: that the Government should take measures which will raise the level of profit, by introducing a new factor on to the right-hand side of the equation, namely Government expenditure. If we call this factor E [1] the equation now reads:

$$G = W_2 + T - S + E.$$

The character of E is determined by the source from which it is derived on the one hand and the purpose for which it is used on the other. The source may be either borrowing or taxation. In either event the money must (by definition) come primarily from the unspent incomes of the capitalists. The purposes on which the money is spent may be manifold; the object is to put the money into the hands of the working-class, either as a direct increase of their income in the form of an allowance or a subsidy, or in return for work performed, when it is spent on employment in the building of roads, schools, etc., or in the provision of services such as teaching, doctoring, etc.

What effect can these measures have on the employment situation? The logic of the proposals is that an increase in E will raise G, and thus stimulate employment—on the assumption that when profits rise business-men expand their activities and order new machinery. This assumption is pretty well correct in normal times and in competitive conditions. But the unique feature of the situation we are now considering is that in order to raise gross profits the incomes derived from those profits are to be taxed, or at least the savings out of those incomes borrowed; the incentive provided by increased consumer demand is thus to a greater or lesser degree negated by the manner in which consumers are provided with their extra incomes. The force of this "disincentive" depends on several considerations: firstly, whether the Government expenditure is financed by taxation or by borrowing; secondly, whether the Government expenditure is used to finance enterprises which enter into competition with private enterprise or is directed into more "harmless" channels.

The taxation of profits in order to subsidise workers' incomes

[1] For the purpose of this article I shall define E as the net effect of Government transactions on the income of the workers.

so as to improve demand is a self-negating operation, and can hardly be expected to lead to any improvement in employment. There will also be repercussions, such as a reduction in T and an increase in S, which will leave the level of profits lower in the final analysis than they were before the policy was brought into operation. Full employment cannot be achieved by taxation alone in a free enterprise economy. It may be suggested, it is true, that, provided the taxation falls on all capitalist incomes equally, and since all the benefit of the increased consumer demand accrues to *net* profits, there will be a certain transfer of income from fixed incomes (rent and interest) to business profits, which will provide an incentive for greater employment. But it is doubtful whether the rentier and business sections of the capitalist class are sufficiently distinct to give any basis for this argument; and there are still the repercussions of T and S to be contended with.

If, on the other hand, the Government expenditure is financed by loans, the situation is rather different. The capitalists, who are providing the source from which increased consumer demand is financed, do not lose title to their wealth; they become the owners of a Government debt, and are entitled to an annual interest payment out of national revenue. The growth of the national debt becomes the means of increasing profits, and the increase in the profits is in turn converted into more national debt. In effect therefore business-men are invited to increase employment in return for increased holdings of the national debt. Now this proposition may be acceptable for a limited period and in special circumstances. Thus it is acceptable in time of war when no better alternative presents itself, and when it is also taken for granted that the process will not go on for ever. Even so, there is not much enthusiasm for the arrangement. But do these conditions obtain in times of peace? It does not seem to me to be a practical proposal as a long-term policy. The donkey may follow the carrot for a limited period, but once he becomes convinced that he is merely operating a mechanism which keeps the carrot out of reach, he will cease to show any further interest. Interest on the national debt is, as we all know in these enlightened days, a transfer payment; and within the framework of a full employment policy that transfer becomes merely a transfer from one pocket of the capitalist class to the other. Increased holdings of the national debt do not therefore represent increased accumulations of real wealth to the capitalist class.

Even, however, in the short term, in which a policy of deficit

financing may be acceptable to free enterprise, there are strict limits to the purposes for which the money may be used without becoming a brake on private industry. If, for example, the Government seeks to enter a field in which it is in direct, or even indirect, competition with private firms, it will be threatening to undercut the profitability of the private sector, and to that extent reducing the effectiveness of its deficit expenditure on the incentive to increase employment. This is the reason for the curious preference, noted by J. M. Keynes, for "*wholly* 'wasteful' forms of loan expenditure rather than for *partly* wasteful forms." [1]

Our conclusion is that the Keynesian prescription for "full employment in a free society" is applicable only as a *temporary policy of deficit finance, and provided that the money is only spent on purposes which do not bring the Government into competition with private business.* The situation is not, however, one which calls for merely temporary remedies, nor can any Government, in Britain at least, afford to divert any large part of its labour force into "harmless" forms of employment. The truth is that full employment under present conditions must involve a very great increase in the rate of new investment, not merely on account of the labour which must be absorbed, but because of the powerful needs of re-equipment and reconstruction of many of our most vital industries and services. Such an intensive investment programme would temporarily raise the level of profits; yet it is very doubtful if private industry, in its present monopolistic state can be expected to make the effort, for fear of the ultimate depreciation of its existing capital holdings. Nor is industry any more happy at the prospect of the Government taking over its investment responsibilities. Who then is to cut the knot? May not the system of private enterprise have to yield eventually to the planners?

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[1] *General Theory*, p. 129.

CAUSES OF THE SUPERIOR EFFICIENCY OF U.S.A. INDUSTRY AS COMPARED WITH BRITISH INDUSTRY [1]

THE theory that the superior efficiency of the U.S. industry is due to the larger size of the market is expressed in each of three different forms. The first form of the theory is that the individual enterprises in the United States enjoy the advantages of larger markets. If the advantage is indeed of this form, it is difficult to see why England should not secure similar advantages by having relatively fewer firms in each industry.

The second form of the theory is that the groups of firms in each industry in the United States enjoy a larger market for the product of the industry. If this is the form of the advantage which the United States enjoy, then England could secure the same advantages if she concentrated her industrial effort upon a smaller number of industries, so that each of these industries would secure a larger world market.

The third form of the theory is that the United States secures greater efficiency of production because of the greater size of her whole economy. This is the only one of the three explanations which indicates a final reason for the United States advantage which England cannot hope to overcome. But an examination of the historical evidence and a study of the variation of productivity between different countries to-day both throw considerable doubt upon whether this third kind of advantage due to the large size of the economy as a whole is really so very important.

Historical Evidence

The superior efficiency of the United States industry is no new phenomenon. Indeed, as long ago as 1870 the superiority in efficiency of the United States industry over the British seems to have been as great as it is to-day. But in 1870, the market for the United States industry as a whole was probably smaller than the market for British industry as a whole. It is therefore difficult to account for the superior efficiency of the United States industry to-day by reference to the larger size of its market to-day.

[1] This article has been compiled from some unfinished notes left by Erwin Rothbarth at his death. Alterations have been reduced to a minimum for fear of misrepresenting the author's original ideas.

It is difficult, of course, to make any precise comparison between the size of the United States market and the British market; one reason for this is that we have to make due allowance for transport costs when we measure the size of the market; we must also make allowance for the average purchasing power of the individuals who compose the market. The question which we have to answer is: How many units could the United States industry sell if the price charged ex-factory were the same as the price charged ex-factory by British industry? But all that we know is the actual number of units sold by United States industry and British industry respectively in various localities. Only when we can find localities with similar purchasing power, but which, owing to different distances from the source of supply, pay different prices for the same product, are we able to isolate and measure the influence of transport costs on the size of the market. We may then estimate the size of the market as being the aggregate amount which can be sold for a given ex-factory price α, say, which will be equal to $P - \gamma\pi$, where P is the price paid at the selling point, π is the transport cost per mile, and γ is the distance of the selling point from the factory.

No such refined calculations are needed in order to show that the United States market in 1870 was less than the British market, for at that time the population of the United States was no larger than that of the United Kingdom, and it was thinly spread over the vast area of the continent. Since transport costs by land were then much higher than transport costs by sea, their effect in reducing the United States market was far more serious than their effect on the United Kingdom market. Moreover, with low marine transport costs, the United Kingdom was able to sell its goods to Belgium, Holland, France and parts of Germany and Italy far more easily than the eastern states of the U.S.A. could sell to the states of the far west. It is therefore clear that the United Kingdom was selling to a larger market than the United States in 1870, so that the relatively higher efficiency of the United States industry at that date cannot have been due to any superiority of the size of the market which they served.

Evidence from Interregional Comparisons

Further doubt is cast on the theory that a large market for the whole economy is the source of the United States efficiency by the fact that the industries of the Southern States of the U.S.A. are not particularly efficient, although they have as easy an access

to the large markets as the industries of the rest of the U.S.A. On the other hand, the industries of Australia, Canada, New Zealand and Argentina all show high efficiency without having access to particularly large markets. On these grounds, we are led to reject the theory that the availability of a large market is the explanation of the high efficiency of U.S.A. industry.

Alternative Theories to Explain U.S.A. Efficiency

"Age of Industry" Theory. The superior efficiency of United States industry is sometimes attributed to the fact that it developed more recently than the British industry, and was thus able to adopt more up-to-date techniques. British industry was, on this theory, hampered by the possession of antiquated equipment on which it had to pay overhead charges. It is doubtful, however, whether a detailed comparison of British and American industry would lend much support to this theory.

On the other hand, it is certainly a common belief that American industrialists are always more ready to scrap industrial equipment than are their British counterparts. This may be due to capital being more readily obtainable in the United States, but it may also be due to a psychological difference between the adventurous employers of the United States and the more conservative British employers. It is interesting to speculate how far the superior efficiency of the United States industry may be due to a readiness to take on a venture which is in fact quite irrational from the point of view of the individual employer concerned, although it benefits his country by increasing efficiency and stimulating business.

Availability of Land. In any country where land is readily available in large quantities, labour is likely to be expensive. For the income of the industrial worker must be sufficiently high to present an attractive alternative to his cultivating the land for his own profit. Thus the high productivity of labour in American industry at the beginning of this century can be explained by the fact that industry had to instal labour-saving equipment and to economise in the use of labour until its productivity was sufficiently far higher than it was in agriculture to enable relatively attractive wages to be paid in industry. The same explanation will account for the high productivity of labour in Canadian and Argentinian industry until quite recently. Kaldor has raised an objection to this theory by pointing out that in American industry the proportionate share of labour in the total product has always been lower than it is in British industry. This does not seem to be a

valid objection to the theory; for the superficial paradox is explained by the following facts: (1) American industry is more highly mechanised than British industry; (2) the supply of labour is less elastic compared to the supply of capital in U.S. industry than in U.K. industry.

Size of Market for Standardised Products. The ease with which the United States industry has been able to install mass-production methods is probably due as much to the structure of the buying public as to anything else; for the United States public is very ready to buy standard articles which are not differentiated by marked individual features. In the United Kingdom, on the other hand, there remains an aristocracy and a middle class impregnated with aristocratic ideas, who reject mass-produced articles and insist on articles with individual character. These fancy goods cannot be mass-produced conveniently because the process of production differs between all the specialised articles and it pays small firms to specialise in the production of particular products.

If this theory of the successful use of mass production in the United States were correct, it might be expected that the "colonial" countries would have benefited to the same extent, since they also serve a public which is content with standardised goods. The only reason that firms in the "colonial" countries are not in fact found to have grown to the same extent as those in the United States, is that their transport costs are considerably higher, so that no individual firm can grow beyond a certain point without coming up against market limitations.

Both these last two explanations are valid, and account for the superior efficiency of United States industry. On the one hand the availability of large amounts of land and the consequent scarcity of labour have stimulated industry to install labour-saving machinery which has resulted in high efficiency. On the other hand the same plenty of land and scarcity of labour have resulted in a social structure which has put purchasing power in the hands of those who are ready to buy large quantities of standardised goods but who do not favour the purchase of aristocratic goods of high individual quality. Thus the special structure of the market in the United States has resulted in the production of products where the economies of mass production by labour-saving machinery have been particularly high. Both our explanations go back to the ample supply of land in the United States as the fundamental explanation of the superior efficiency of her industry to-day.

Objections to the Last Two Theories

One obvious objection to these theories is that land is no longer a free good in the United States. This is quite true, but it is only claimed that in the first instance the ready availability of land and the consequent scarcity of labour caused the United States industry to become more efficient than that of any other country. Once the tendency towards large-scale production had become established it became self-reinforced and operated independently of its original cause, because it had created a buying public which was predisposed to pay for large quantities of mass-produced goods. In the United Kingdom, where industry never began to become efficient in mass-production methods, the market remained specialised and the forces of market imperfection are much more deeply ingrained, so that the size of the market and mechanisation and output per head all remained limited. The preference for " craftsmanship " in British industry is probably due to this fact of aristocratic buying habits and to the relative abundance of labour much more than it is due to the lack of scientific training of British business men.

Economies of Large Scale

The advantages which the American economy has derived from the large scale of production have been very considerable, although they may in some cases have been exaggerated. They may all be explained in terms of the complementarity of indivisible processes of production.

One example is the large scientific instruments industry in the United States which supplies an industry which consists of large firms. One of the chief reasons for the large size of the firms in the consuming industry is the indivisibility of some of the productive units which they employ. It is only because there is a considerable number of these large consuming firms that the mass production of scientific instruments in the United States is profitable.

During the war a large number of mechanical devices for making measurements and for the operation of quality control were produced and used in the United States. There grew up on this basis a very large industry for the production of these machines. It may be argued even in this case that although the great size of the whole United States economy facilitated the rapid introduction of such machines, their use need not really be confined to large-scale industries, and that the extensive and profitable use

of these devices in America was chiefly due to the scientific outlook of the managers of the large American firms. Indeed, the scientific instruments industry in Sweden is also very highly developed although they had to start from small beginnings with a small market and to build up their export connection. In that country the early growth of the industry depended upon the high development of actuarial mathematics and the use of calculating machines by insurance companies.

It would be absurd to suggest that the advantages of large-scale production are solely based on the indivisibility of certain productive processes. The point is that large scale is an advantage whenever there are complementary relations between large-scale productive processes. This may be illustrated by means of an imaginary example. Suppose that the optimum size of a blast furnace is large for reasons connected with fuel economy, and that the products of the blast furnace are used by a rolling mill where the optimum size is also large. Then, unless the capacity of the rolling mill is an exact multiple of the capacity of the blast furnace, it will be necessary to use more than one rolling mill in order to maintain both the blast furnaces and the rolling mills in continuous production. Indeed, if the ratio of the capacity of the rolling mill to that of the blast furnace is some inconvenient fraction, such as 7 to 5, it will evidently be necessary to use quite a large number of rolling mills (5 in our example) to ensure continuous working of both the blast furnaces and the rolling mills.

Too much stress must not be attached to arguments of this kind. For example, it has been argued that the high cost of scientific research gives an advantage to large firms. But theoretically scientific research could be carried on by independent organisations who would sell their results to firms of all sizes. Although small and medium firms could theoretically share the advantages of scientific research in this way for a moderate fee and without incurring the heavy cost involved by carrying out their own research, such a solution is not practicable under present conditions because of the high degree of business secrecy and because of the lack of scientific training amongst the managers of medium and small firms. For these reasons, large firms do secure an advantage under this head, but these advantages depend upon the secretiveness of industrial managers rather than on the large scale of the enterprises.

In general, we find that what at first seems to be an advantage due to large scale frequently turns out to be an advantage con-

tingent on various special features of the present productive system. For instance, the advantage may depend on the character of the buying public, or on the imperfection of the division of labour which is itself due in the last resort to the monopolistic tendencies of a productive system run for private profit. The private ownership of the firms then limits the scope of enterprise and scientific initiative, whereas if there was division of labour that enterprise would obtain fuller scope.

It is still true, on the other hand, that in a large economy like the American economy private enterprise itself will often provide the remedy, whereas in a smaller economy only the State can provide the scientific research or other services needed. Thus private enterprise in the United States provides widespread information based on market research, and there are also firms providing specialists in quality control techniques. The reason for this is the development of the scientific outlook amongst the managements of many large firms in the United States. Once such a service as market research has been provided at all through a market, competition tends to spread it to a far wider circle of firms than the large firms who in the first instance fostered its provision. Where there are a sufficient number of large firms to introduce the service in the first instance, they enable it to be provided eventually for large and small firms alike. This experience in the United States suggests that in smaller countries although public intervention may be necessary for providing such services in the first instance, yet once their use has become widespread the provision of them could be taken over from the State by a number of competing private firms. Experience alone can decide whether this is so, and unless the market proves sufficiently large to allow competition to develop in the provision of the service, the State should continue to provide it.

The Future of the Small Firm

Although under present conditions large firms in large industries certainly do secure several advantages over small firms, these advantages are likely to become less important as scientific training becomes more widespread so that a larger number of competent scientists can be employed at moderate salaries.

The availability of scientifically trained staff will give a new lease of life to the small firms in those industries where production at a small scale can be partially standardised. When the small firm is almost as well staffed with scientists as the large firm, it

will have overcome one of its greatest disadvantages, and various advantages of small scale will again be felt.

The chief of these advantages is that the manager of the small firm can devote his individual judgment to every stage of his business both in manufacturing and marketing. There are other advantages also: for example, there is more scope for enterprise in small business than in large business. Another advantage, which largely accounts for the preference of Jewish employers for small business, is that the human relations in small firms are less impersonal than in large firms. Another potential advantage, which will be felt only when technical knowledge has become widespread and trade unions are firmly established in all firms, is that small firms should be able to provide more scope for the workers.

For these various reasons, the spread of scientific training and a reasoned outlook is likely to diminish the purely economic advantage of the large firm, so that men of independence and judgment will more often choose to accept the hazards of small-scale business because of the variety and the interesting opportunities for individual enterprise which it offers them.

E. ROTHBARTH

THE WORKING OF RUBBER REGULATION[1]

I

1. THE International Rubber Regulation Scheme was in effective operation from June 1934 to the early part of 1942, and during this period it controlled 97% of world rubber exports. It was a quota scheme,[2] with basic quotas allotted to the participating territories (which covered over 99% of the area under rubber), and exports were restricted in accordance with rates of release prescribed by the International Rubber Regulation Committee (I.R.R.C.). This body of representatives of the participating countries was throughout its existence presided over by a high-ranking British civil servant, who was leader and voting member of the Malayan delegation. The leader and voting member of the Netherlands East Indies (N.E.I.) delegation was also a high Government official. With quantitatively insignificant exceptions, all the voting members were Government officials. The scheme applied equally to estates and small-holdings.[3] It is relevant to what follows that, before the Japanese War,

[1] Extracted from material collected by the writer as Leon Fellow of the University of London.

[2] Some definition of these terms is necessary. By *Quota* is meant the agreed notional productive capacity, under reasonably favourable conditions, of each individual territory, calculated on the basis of 1929–32 exports, with allowances for areas immature during this period. The permissible output of any year was determined by the *Rate of Release* fixed by the International Committee. The *Actual Output* in any year was usually in close accord with the *Rate of Release*.

[3] The distinction between estates and smallholdings has always been clear, although the official line of division varies slightly in the different rubber-producing territories. The estates are units of several hundred or thousand acres each, operated with substantial capital, and employing a large labour force in receipt of a cash wage. The smallholdings are essentially peasant holdings of two or three acres each, usually worked by the owner and his family, occasionally employing outside labour on a share basis. The smallholders are practically always referred to as natives, which is formally inaccurate for Malaya, British North Borneo and Sarawak (though not for the N.E.I.), where many of the holdings are owned and worked by Chinese and not by Malays. Moreover, "native" carries a connotation of inefficiency which certainly does not apply. Measured by long-period supply price, the smallholders are the more efficient class, though their methods necessarily differ from those of the estates. For example, the much greater planting density on smallholdings reflects the absence of cash wage costs; speaking broadly, the smallholder tries to maximise the yield per acre and the estate the yield per tree—a point very generally overlooked by European observers. The economics of the different planting densities is an interesting and complex subject which cannot be discussed in detail here.

rubber was not only much the most important export from the British Colonial Empire, but that it was also easily the most valuable cash crop grown by smallholders in the British or Dutch colonies.

2. Under the Stevenson Restriction Scheme (1922–28), the average assessment per mature acre of Malayan smallholdings was about one-half of that of estates. After the withdrawal of that scheme, yields per mature acre on smallholdings were regularly much in excess of those on estates (cf. Table IV, below), revealing the very substantial under-assessment of the smallholders under the Stevenson Scheme. When the 1934 Rubber Regulation Bill was debated in the F.M.S. Federal Council, the Malay spokesman, while supporting the proposed measure, anxiously pleaded for a fair share for smallholders in the Malayan territorial quota; he was given emphatic and specific assurances that this time justice would be done.

In the light of these assurances, the following five tables [1] are of interest. The first two are purely formal summaries of the division of the Malayan quota.

TABLE I

*Internal Distribution of the Malayan Territorial Quota,** 1934–40.

	Estates.		Smallholdings.	
	Thousand tons.	Per cent. of Malayan quota	Thousand tons.	Per cent. of Malayan quota.
1934 . . .	312 5	61·1	199·1	38·9
1935 . . .	334·6	62·5	200·4	37·5
1936 . . .	352·6 †	61·7	219·4	38·3
1937 . . .	373 2	61·8	230·9	38·2
1938 . . .	377·4	61·7	234·5	38·3
1939 . . .	395·9	61·9	244·0	38·1
1940 . . .	407·4	62 3	246·4	37·7

* The total of these quotas slightly exceeded the Malayan territorial quota, and this necessitated the eventual introduction of internal cuts (reductions in rates of release below the internationally agreed rate).

† For administrative reasons, some properties owned by Indian money-lenders were transferred in 1936 from the estate to the smallholdings quota. Their assessments totalled some 6,000 tons, and to this extent all the tables slightly overstate the "true" smallholdings quota from 1936 onwards.

[1] They have been derived from the official *Annual Reports* of the Controller of Rubber, and from the official annual *Malayan Rubber Statistics Handbook*, supplemented in a few instances by reference to the records of the I.R.R.C.

Table II

Quotas of Malayan Estates and Smallholdings expressed in lb. per acre, 1934–1940.

(To the nearest 5 lb.)

	Estates.		Smallholdings.	
	Per acre.	Per mature acre.	Per acre.	Per mature acre.
1934 . . .	350	385	340	365
1935 . . .	375	405	340	355
1936 . . .	395	420	375	385
1937 . . .	415	440	395	400
1938 . . .	425	450	400	405
1939 . . .	430	470	405	420
1940 . . .	435	500	405	425

The results of the quota division emerge from Tables III–V.

Table III

*Comparison of Previous Output * of Malayan Estates and Smallholdings with their* 1934 *Quotas.*

(Tons, to the nearest 5,000 tons.)

	Estates.	Small-holdings.	London price, pence per lb.
(*a*) Output for calendar year 1933 . .	240,000	220,000	3·2
(*b*) Output for twelve months ending May 1934	250,000	250,000	4 5
(*c*) Annual rate of production based on seasonally corrected output, March–May 1934	265,000	300,000	5·8
(*d*) 1934 quotas	310,000	200,000	—
(*e*) (*d*) as per cent. of (*a*) . . .	129	91	—
(*b*) . . .	124	80	—
(*c*) † . . .	117	67	—

* These are production figures; stock changes are allowed for.

† In the spring of 1934 the price was nearer to the price visualised under restriction than it had been in 1933. The quotas of different classes of producer may be considered fair if their ratio is roughly proportionate to approximate unrestricted outputs at the prices envisaged under restriction. This lends special interest to the comparison of (*c*) with (*d*).

TABLE IV

Annual Output of Rubber per Mature Acre of Malayan Estates and Smallholdings, 1929–40.

(Lb., to the nearest 5 lb)

	Estates	Smallholdings.	Smallholdings as per cent. of estates.
1929	410	485	118
1930	380	460	121
1931	375	445	119
1932	365	385	106
1933	355	465	131
1934	Regulation introduced during the year		
1935	295	240	81
1936	275	230	84
1937	375	330	88
1938	290	200	69
1939	290	200	69
1940	410	370	90

These figures have been calculated by dividing the actual output by the mature area, *i e*, by the acreage five or more years old The sharp fluctuations in the last column in 1932–33 reflect the smallholders' reaction to the very low prices of 1932, and to the recovery of 1933, and show the forward rising supply curve of smallholders' rubber The very low figures in the last column in 1938–39 are explained by sales of rights by smallholders to estates; in 1940 the sales were in the reverse direction These transactions are discussed in the text

TABLE V

Shares of Estates and Smallholdings in Malayan Rubber Production, 1929–40

	Estates		Smallholdings	
	Tons	As per cent. of total Malayan production	Tons	As per cent. of total Malayan production
1929	246,000	55 2	200,000	44 8
1930	236,000	54 6	197,000	45 4
1931	240,000	55 1	197,000	44 9
1932	240,000	57 6	177,000	42 4
1933	240,000	52 2	221,000	47 8
June–Dec 1933 .	149,000	50 9	144,000	49 1
June 1933–May 1934 .	251,000	49 7	253,000	50 3
Jan –May 1934 .	102,000	48 3	107,000	51 7
	Regulation introduced.			
June–Dec 1934 .	160,000	59 7	108,000	40·3
1935	243,000	64 0	137,000	36·0
1936	233,000	63 9	132,000	36 1
1937	314,000	62 4	189,000	37 6
1938	246,000	68 1	115,000	31·9
1939	245,000	67 7	117,000	32 3
1940	334,000	60 8	215,000	39 2

The implication of these tables is clear. To forestall possible objections, it must be stated at once that sales of rights from smallholders to estates, whether directly or indirectly (*via* dealers who buy coupons first and uncouponed rubber subsequently), were negligible during this period, except in 1938 and 1939, when such sales took place to a small extent—about 5% of the total quota in each year. In 1940 net sales were in a reverse direction, and the estates sold rights to smallholders *via* the dealers. The position can be ascertained at a glance by comparing the shares of estates and of smallholdings in Malayan production (Table V) with their shares in the quota (Table I). The different trends of the outputs of estates and of smallholdings reflect the enforced curtailment of the latter. It needs also to be stated that there was no "overtapping" by the smallholders in the years before the introduction of regulation. An official inquiry on bark consumption and bark reserves on Malayan smallholdings took place in 1931–33, and it found that the rate of bark consumption was far lower than had been believed, and that it was not in excess of the rate of bark renewal; bark reserves on the trees averaged about 7½ years' bark consumption.[1, 2]

It is possible to estimate very roughly the loss inflicted on smallholders by their under-assessment. If the shares of estates and smallholdings in the quota had been proportionate to their probable unrestricted outputs at prices visualised under restriction, the quota would have been divided about equally. If the estate and smallholdings' quotas had been calculated on the same basis as had been internationally adopted for the computation

[1] The results of this inquiry were published in an official booklet, *Bark Consumption and Bark Reserves on Small Rubber Holdings in Malaya* (Department of Agriculture, S.S. and F.M.S., Economic Series No. 4, 1934). This was the first systematic inquiry into conditions on Malayan smallholdings, and had been prompted by the obvious need to revise widely held views. The results were in complete contradiction to the oft-repeated statements of officials and estate spokesmen on "squandering of bark reserves" and "abnormally excessive tapping" on smallholdings. It is of interest to note that while the setting up of the inquiry was fully reported in the *Bulletin* of the Rubber-Growers' Association, as well as in its 1931 *Annual Report*, no reference to the results can be found in these publications. The booklet is almost unknown in this country. Copies are available in the Colonial Office library and in the excellent library of the Research Association of British Rubber Manufacturers.

[2] In the autumn of 1933 the application of rubber restriction to Malaya was considered by a committee of the Rubber-Growers' Association. Its recommendations were embodied in an unpublished but widely circulated report, intended chiefly for the benefit of the Malayan administrations. The suggestions on the internal division of the quota were remarkably fair, indeed favourable to the smallholders, and had the proposals of the representatives of large estates been adopted, the smallholders would have fared better than they actually did under the auspices of the local governments.

of the total Malayan quota, the division would have been about 55% for estates and 45% for smallholdings. These estimates are subject to a margin of error, but on any reasonable basis of division the share of smallholdings should not have been less than 45%, and possibly about 48%, especially as it is explicitly claimed in the *History of Rubber Regulation* (p. 47) that official instructions were issued in 1934 that the smallholders were to be given the benefit of any doubt in the division of the quota. On this basis, smallholders' quotas over the years 1934–41 should have totalled approximately 400,000 tons more than they actually did, and some two-thirds of this amount, say 270,000 tons, would have been exportable under the restriction scheme. Taking a conservative overall value of export rights at an average of 4*d.* per lb. up-country throughout this period, the loss to smallholders may be estimated at about £10 million, or 85 million Straits dollars. As this came about through under-assessment of land which remained under rubber, there was little or no transfer of resources to other uses to be set against the loss.[1]

3. The data on the administration of rubber regulations in British North Borneo are incomplete, and no official figures are available before 1939 on the division of the territorial quota between estates and smallholdings. In that year the average assessment of estates was about 500 lb. per mature acre, and that of smallholdings about 215 lb., although the yielding capacity of the latter was unquestionably higher. From fragmentary data it appears that much the same ratio between the assessments of estates and of smallholdings prevailed throughout the operation of restriction. In 1936–37 a series of tapping experiments took place in Sarawak (just across the frontier from British North Borneo) under the auspices of the Malayan Survey Department. The average yield on the smallholdings examined was 489 lb. per mature acre. It appears that the smallholders were worse treated in British North Borneo than in any other territory.[2]

[1] This is, of course, not to dispute the obvious fact that smallholders' incomes were substantially higher under regulation than they would have been in its absence. For considerable periods Malayan smallholders enjoyed higher incomes by selling coupons without any work than they would have earned without restriction by tapping their trees. According to an American consular despatch in 1939: "Malayan smallholders regard their export coupons as a pension . . . and would almost certainly object to the discontinuance of control" (U.S. Department of Commerce, *Rubber News Letter*, December 15, 1939).

[2] In Ceylon the per acre assessments of estates greatly exceeded those of the smallholdings, and it is highly probable that there, too, the smallholders were under-assessed, but for various technical reasons this cannot be shown so clearly as it can be for the other territories.

4. The N.E.I. native quota was also inadequate, so much so indeed, that this almost wrecked the whole regulation scheme in 1935. For various reasons, chiefly the absence of acreage statistics and administrative changes and quota revisions, it is not possible to present a series of tables for the N.E.I. similar to Tables I–V for Malaya. There is, however, no lack of data to show in broad outlines the treatment of the smallholders.

Table VI is analogous to Table III for Malaya.

TABLE VI

Comparison of Previous Output of N.E.I. Estates and Natives with their 1934 *quotas.*

(Long tons, to the nearest 5,000 tons.)

	Estates.	Natives.*	London price, pence per lb.
(*a*) Output for calendar year 1933	170,000	115,000	3·2
(*b*) Output for twelve months ending May 1934	180,000	185,000	4·5
(*c*) Annual rate of production based on seasonally corrected output, March–May 1934	220,000	300,000	5·8
(*d*) 1934 quotas	205,000	145,000	—
(*e*) (*d*) as per cent. of (*a*)	121	126	—
(*b*)	114	78	—
(*c*) †	93	48	—

* For the natives exports have been taken as output. The export figures for March–May probably include some reduction in stocks, and thus slightly overstate the actual output. The amount involved is, however, certain to be very small. The natives kept no stocks, and dealers' stocks were also comparatively small: moreover, the exports were fully in accordance with the rising trend since mid-1933.

† The considerations summarised in the second note to Table III also apply to these figures. Moreover, in the N.E.I. very large native areas were reaching maturity in about 1933–34 for which little or no allowance was made in the 1934–35 quotas. It should also be noted that the supply of N.E.I. native rubber was definitely elastic, and the 1933 production was at a rate of only about one-third of the officially and very conservatively estimated capacity.

5. During the first two and a half years of restriction, from June 1934 to December 1936, there was no individual restriction of native smallholders in the N.E.I., and their exports were kept in check by means of a special export tax (special as distinct from the ordinary *ad valorem* tax levied on the f.o.b. value of native exports). This was designed to depress the price of native rubber in the interior sufficiently to keep exports within the permissible limits, calculated from the total native quota and the international

TABLE

The Working of the Special Export Tax

June 1934–

	(1) Singapore price of medium blankets, expressed in pence per lb.	(2) Ordinary N.E.I. export duty on native rubber at 5% *ad valorem* of f.o.b. values, pence per lb.	(3) Special N.E.I. export duty on native rubber, average rate for month (dry), pence per lb.	(4) Approx. cost of shipping from N E.I. port to Singapore, processing and marketing, pence per lb.	(5) Approx. expenses from interior to N.E.I. port, pence per lb.	(6) Approx. average return to native producer, pence per lb.	(7) Singapore price ex export duties, pence per lb.
1934 June . .	4 8	0 1	—	0 9	0 2	3 6	4 7
July . .	5 2	0 2	0 7	1 0	0 2	3 1	4 3
August . .	5 4	0 2	1 9	1 0	0 2	2 1	3 3
September	5 4	0 2	2 7	1 0	0 2	1 3	2 5
October .	5 1	0 2	3 0	1 1	0 1	0·7	1 9
November .	4 8	0 2	3 0	1 0	0 1	0 5	1 6
December .	4 9	0 2	2 7	1 1	0 1	0 8	2 0
Last seven months of year . .	5 1	0 2	2 0	1 0	0 1	1 8	2 9
1935 January .	5 0	0 2	2 4	1 1	0 1	1 2	2 4
February .	4 9	0 2	2 4	1 1	0 1	1 1	2 3
March . .	4 7	0 2	2 5	1 1	0 2	0 7	2 0
April . .	4 7	0 2	2 4	1 1	0 1	0 9	2 1
May . .	5 0	0 2	2 4	1 1	0 1	1 2	2 4
June . .	5 3	0 2	2 4	1 0	0 1	1 6	2 7
July . .	5 2	0 2	2 7	1 1	0 2	1 0	2 3
August . .	5 3	0 2	3 1	1 0	0 2	0 8	2 9
September	5 2	0 2	3 0	1 0	0 2	0 8	2 0
October .	5 4	0 2	3 0	1 1	0 1	1 0	2 2
November .	5 8	0 2	3 4	1 0	0 2	1 0	2 2
December .	5 9	0 2	4 2	1 0	0 2	0 3	1 5
Year 1935 . .	5 2	0 2	2 8	1 0	0 2	1 0	2 2
1936 January .	6 5	0·3	4 3	1 0	0 2	0 7	1 9
February .	7 0	0 3	4 3	1 0	0 2	1 2	2 4
March . .	7 2	0 3	4 6	1 1	0 2	1 0	2 3
April . .	7 3	0 3	4 9	1 0	0 2	0 9	2 1
May .	7 1	0 3	5 1	1 0	0 1	0 6	1 7
June .	7 1	0 3	5 0	1 0	0 2	0 6	1 8
July .	7 4	0 3	5 0	1 0	0 2	0 9	2 1
August . .	7 8	0 3	5 4	1 0	0 1	0 5	1 6
September .	7 4	0 3	5 4	1 0	0 2	0 5	1 7
October .	7 6	0 3	6 1	0 8	0 1	0 3	1 2
November .	8 4	0 3	6 4	0 8	0 1	0 8	1 7
December .	9 3	0 3	6 7	0 8	0 2	1 3	2 3
Year 1936 . .	7 5	0 3	5 3	0 9	0 2	0 8	1 9

rates of release. It is generally believed that the absence of land survey and registration in Sumatra and Borneo was the sole reason for the introduction of the special tax as a method for restricting native exports. The main reason, however, was the inadequacy of the native quota, which until 1937 did not permit of individual assessments. The official nineteenth *Report on Native Rubber Cultivation in the Netherlands East Indies* [1] stated explicitly that individual restriction was impossible, first because registration would require too much time, money and labour,

[1] Issued by the Division of Agricultural Economics in the N.E.I. Department of Agriculture, Batavia, 1934.

VII

on Native Rubber Exports in the N.E.I.

December 1936.

(8)	(9)	(10)		(11)			(12)	(13)
Approx. price f.o.b. N.E.I. port, pence per lb.	Approx. f.o.b. price ex export duties N.E.I. port, pence per lb.	Ordinary N.E.I. export duty as percentage of—		Special N.E.I. export duty as percentage of—			Exports of native rubber —dry weight (long tons).	Permissible exportable amount ex carry-over (long tons)
		(*a*) F.o.b. price ex export duties (Col. 9)	(*b*) Average return to native producer (Col. 6).	(*a*) Singapore price (Col. 1).	(*b*) Price ex export duties (Col. 9).	(*c*) Average return to native producer (Col. 6).		
3 9	3 8	4	4	—	—	—	16,000	12,229
4 2	3 3	5	6	13	23	24	16,200	12,229
4 4	2 3	8	8	35	88	89	12,600	11,006
4 4	1 5	14	16	50	180	200	15,600	11,006
4 0	0 8	24	19	59	345	417	5,600	9,784
3 8	6·6	32	41	62	455	588	4,700	9,784
3 8	0 9	23	27	55	290	346	12,200	8,560
4 1	1 9	9	10	39	103	112	82,900	74,598
3 9	1 3	14	15	48	182	205	9,600	10,423
3 6	1 2	14	16	49	190	216	16,900	10,423
3 6	0 9	21	25	53	276	333	8,900	10,423
3 6	1 0	17	20	51	229	267	13,600	9,728
3 9	1 3	13	15	48	178	200	22,200	9,728
4 3	1 7	11	12	45	140	154	14,300	9,727
4 1	1 2	18	20	53	230	263	8,100	9,033
4 3	1 0	23	27	59	339	404	9,700	9,033
4 2	1 0	23	27	58	323	385	9,600	9,033
4 3	1 1	18	21	55	256	294	17,500	8,339
4 8	1 2	18	20	58	283	323	9,100	8,338
4 9	0 5	53	80	71	927	1,390	2,800	8,338
4 2	1 2	19	22	54	254	294	142,300	112,566
5 5	0 9	29	35	67	518	631	9,200	12,085
6 0	1 4	17	20	62	315	354	16,100	12,084
6 1	1 2	23	26	65	388	443	9,300	12,085
6 3	1 1	29	33	67	471	550	12,500	12,084
6 1	0 7	40	50	71	684	855	10,700	12,085
6 1	0 8	37	45	70	630	773	14,600	12,084
6 4	1 1	29	33	68	489	570	18,100	13,092
6 3	0 6	45	59	73	828	1,071	11,800	13,092
6 4	0 7	48	61	73	813	1,039	9,800	13,091
6 8	0·4	65	92	80	1,494	2,117	12,000	13,092
7 6	0 9	30	34	76	724	838	16,400	13,092
8·5	0 2	24	26	72	479	525	8,800	13,091
6 6	1 0	32	38	72	616	735	149,300	151,057

"but more especially because the potential production of native rubber is considered to be so great that a division of the permissible exportable amount, based on productive capacity would result in the individual allotment being very small, and as a result some natives who depend for their existence entirely upon family tapping would be seriously affected, while owners of distant gardens worked with hired labour would benefit, and such owners cannot in the present circumstances be regarded as real producers." It should be understood that the "present circumstances" did not mean that the supply price of these producers was too high, but that the quota was too small to go round.

The working of the special export tax is shown in Table VII. The assumptions and data underlying the calculations are summarised in Note A at the end of this article. While the table, read together with the note, explains itself, the following points may be emphasised. Had the expenses (columns 4 and 5) been taken as the equivalent of 4½ guilder cents per half kilo (the figure more generally accepted, see Note A) instead of 4 guilder cents, the average rate of tax would on several occasions have exceeded 6,000%; on our calculations the maximum reached was about 2,100%. The 5% *ad valorem* revenue export tax, which was levied on the f.o.b. value after payment of the special tax, frequently exceeded 40% of the value ex the special tax.

It will be noted that in 1936 native rubber exports totalled 150,000 tons, with an f.o.b. price of about 1*d*. per lb. Around 1930 several observers put forward estimates of the supply price of N.E.I. native rubber during the mid-1930's.[1] These were generally in terms of 10*d*.–1*s*. per lb. as the minimum necessary to draw out 120,000–150,000 tons of native rubber. Moreover, the estimates were in terms of undepreciated sterling, while, with the exception of the last quarter of 1936, throughout the period covered by Table VII sterling was heavily depreciated in terms of the N.E.I. guilder, and a given sterling price in 1934–36 yielded a much lower guilder return to the N.E.I. natives than in 1929–31. By 1933–34 it had already become clear that these estimates of the prospective supply price were entirely mistaken, as, for instance, in the spring of 1934 N.E.I. native exports were running at the yearly rate of 300,000 tons, with a London price of 5½*d*.–6*d*. per lb.[2] in depreciated sterling. The substantial exports of 1934–36 revealed that the supply price of N.E.I. native rubber was a small fraction of the usual estimates.

Throughout the period of the operation of the special tax the I.R.R.C. repeatedly stated that the market price was appreciably below the level which would have yielded a "reasonable

[1] Some of these are listed by Mr. J. W. F. Rowe in London and Cambridge Economic Service, *Special Memorandum* No. 34 (1931), p. 71.

[2] The exports of smallholders' rubber from all the producing territories were at the annual rate of close on three-quarters of a million tons in the spring of 1934. Huge native areas were, moreover, still immature at that time, reaching maturity in the late 1930's only. The 1934 exports were the product of family tapping only, and were all harvested from unselected seedling trees. Thus, very large quantities of native rubber would be unaffected by a rise in money wages in the Far East, while the long-period supply price may be reduced if high-yielding planting material were distributed to smallholders. These are important considerations in gauging the competitive strength of natural and synthetic rubber.

return to efficient producers"; this was moreover quite recently restated in the *History of Rubber Regulation*. The inadequacy of the market price of those years was also a regular theme of the presidential addresses to the Rubber-Growers' Association. Yet close on three-quarters of these prices had to be taxed away to keep N.E.I. native exports within permissible limits. According to the official I.R.R.C. view, a London price of 8*d*. was the bare minimum to furnish a "reasonable return to efficient growers"; the figures in Table VII are a fair comment on these hackneyed concepts.

When the special export tax was introduced, the N.E.I. authorities gave specific and unequivocal guarantees that the receipts would be used solely for the benefit of the native rubber-growing districts, over and above the expenditure allotted to these areas out of the general revenue.[1] The proceeds of the special tax were, however, so large that the authorities were unable to resist the temptation, and a substantial proportion of the proceeds was diverted to the general revenue. The Government defended this policy on the grounds that the natives produced at such low cost that even the 1934–36 returns were profitable, while other sections of the N.E.I. economy, notably the rubber estates, were doing very badly.[2]

II

6. The planting provisions of the regulation scheme also operated to the disadvantage of the smallholders. Briefly, these prohibited new planting almost completely (with the exception noted in the following paragraph), while permitting at first a very large measure of replanting, and eventually unlimited replanting. To appreciate the effect of these provisions it is necessary to consider some semi-technical aspects of planting practice.

By replanting is meant the uprooting of an existing stand of rubber trees and their replacement by better-yielding material,

[1] The official nineteenth N.E.I. *Report on Native Rubber Cultivation* which we have already quoted, stated in 1934: "The principle that the proceeds shall be spent for the benefit of the inhabitants of the rubber-producing areas is inseparably bound up with this particular system of restriction. This tax is not a fiscal device, but a means to secure restriction. A proportion of the proceeds is withheld from the exporter, and this is defensible only if the amounts so withheld are spent at once for the benefit of the districts from which the money was derived."

[2] An official spokesman, addressing the Batavia Volksraad in 1936, argued that the natives had no costs, and that the price, even after the heavy export tax, was remunerative to them, while the world price (several times the return left to the natives) hardly enabled the estates to survive.

while new planting is in effect the extension of the planted area. During 1934–38 (the currency of the first regulation period) new planting was completely prohibited, while a maximum of 20% of the planted area could be replanted over this period. In the aggregate this implied virtually unlimited replanting, since it authorised the replanting of about 1·6 million acres (one-fifth of the total 1934 planted area of about eight million acres) within four and a half years. Each individual owner was, however, also limited to replanting a maximum of 20% of his acreage under rubber during the whole period, and was only allowed to replant 10% in any given year. In 1939–40 new planting equivalent to 5% of the existing acreage was allowed; for the remaining years of the effective regulation new planting was totally forbidden; replanting, on the other hand, was unlimited from 1939 onwards.

These arrangements jeopardised the future of the native rubber industry. Replanting involves a total loss of income for six years from the area felled, since it takes about six years for the trees to become tappable.[1] Thus this operation could only be contemplated by producers with ample working capital—*i.e.*, in practice the larger estates, whose managers and owners moreover realised that by cutting out a part of their substantial acreage, they could harvest from the remaining area the crop they would be allowed to export under the scheme. This already ensured that the smallholders would not undertake any replanting. During the first regulation period they could not possibly have replanted, as each owner was limited to replanting a maximum of 10% of his plantation in any one year, and to 20% over the whole period. It is impossible to replant successfully part of a holding totalling two or three acres or less, since the area to be replanted would be closely surrounded by mature trees which would intercept the sunlight, and whose roots would compete for food with the undeveloped rootlets of the newly planted trees. Moreover, smallholders practice a rough-and-ready rotational system of tapping and resting trees, not entire areas, and they are thus unable to fell part of their areas and harvest the crop from the balance, even if this were technically feasible, which it is not. Lastly, when applying for permission to replant, a host of technical information had to be submitted to the authorities in writing, and this again handicapped the smallholder, who never understood

[1] The Rubber Research Institute of Malaya estimated in 1938 that estates required about twelve years to recoup the cash expenses and the loss of income from replanting.

the procedure. The combined result of these various factors was to confine replanting to estates.

The replanting of the estate acreage with high-yielding material, together with the prohibition of new planting, would in the long run have eliminated the smallholders.[1] The physical decay of smallholdings would have been slow, since under native conditions the rubber tree is not so much of a wasting asset as has often been assumed. Nevertheless, in due course there would have been some decline, particularly in areas with a long history of previous cultivation with such food crops as pineapples or tapioca, which make substantial demands on the soil, and unless the smallholders had been allowed some new planting, their share in the total output would have gradually decreased. Much more important in practice was the danger that the smallholders might have been eliminated as effective economic competitors, since without new planting they could not have taken advantage of high-yielding modern planting material. In this context it should be noted that not only is there unlimited land available in the more important rubber-growing areas, but that the rubber tree takes next to nothing out of the soil, and under native conditions actually nothing which would not be put back by the dense cover and the heavy leaf-fall; there is thus no question of soil mining such as has occurred in many countries with apparently unlimited resources of land. An abandoned rubber smallholding reverts to secondary jungle with *hevea* seedlings predominating, and in a few years' time it is as suitable for native rice or rubber-growing as before. In certain areas in the East, especially in the N.E.I., a secondary jungle of rubber seedlings is actually beneficial, as it helps to keep out *lalang* (*imperata arundinacea*, a dangerous speargrass), which, when once established over large areas, is difficult to clear up, and also because rubber forests are less liable to burn than most other jungle plants. The need for replanting on estates arose in the past through loss of soil from erosion, loss of stand through root disease and, above all, from rapid development of high-yielding material which rendered obsolete the original stand. There was no case for prohibiting the smallholder to extend his acreage while allowing the estates to increase their capacity.

Under the renewed regulation scheme (1939–43) a total of

[1] During the first regulation period (1934–38) there was comparatively little replanting by estates, and the danger to the native industry was potential rather than actual. There was, however, a gradual increase in the acreage replanted annually and this was much accelerated from 1939 onwards.

5% new planting (5% of the 1938 acreage) was allowed in 1939–40, after which date the International Rubber Regulation Committee was to decide the permissible rate of new planting, and also to declare whether unlimited replanting was to continue for the remaining years of regulation. These matters were decided at two meetings in February and May 1940. At the first, unlimited replanting was permitted until the end of the current scheme. For the second meeting, in view of the important decision which was to be taken, a special statistical annex to the agenda was prepared and circulated by the Secretariat. This annex contained some interesting forward estimates of future absorption and potential capacity.

Two sets of capacity estimates were drawn up, one on the assumption that the estates would replant 70,000 acres annually, while the natives (smallholders) would not replant at all, the other on the assumption that estates would replant 70,000 acres and natives 40,000 acres a year. The former was rightly stated to be more plausible. No new planting was assumed after 1940. No attempt was made to estimate the price required to call forth the full capacity output. The following results emerged.

TABLE VIII

Summary of Estimates by the I.R.R.C. Secretariat of Future Physical Productivity of Plantation Rubber.

(Tons.)

Year.	Estates.		Smallholdings.		Total capacity.
	Tons.	Per cent. of total capacity.	Tons.	Per cent. of total capacity.	
Assumption A : annual replanting of 70,000 acres by estates, no replanting by smallholders.					
1939	812,000	53·1	716,000	46·9	1,528,000
1950	992,000	61·1	631,000	38·9	1,623,000
1960	1,037,000	74·2	360,000	25·8	1,397,000
Assumption B : annual replanting of 70,000 acres by estates and of 40,000 acres by smallholders.					
1939 .	812,000	53·1	716,000	46·9	1,528,000
1950 .	992,000	61·7	617,000	38·3	1,609,000
1960 .	1,037,000	71·6	412,000	28·4	1,449,000

The divergent trends of the capacity of estates and of smallholdings reflected replanting by estates with high-yielding modern material, whilst the capacity of smallholdings declined with their advancing age; on Assumption A, one-third of the

smallholdings area would be over thirty years old by 1950, and over six-sevenths by 1960, and thirty years was believed to be the limit of the economic life of the holdings.[1] On Assumption B, the rate of decline was not so steep, but some reduction was still postulated, as the smallholders were assumed to use unselected seedling material for replanting, and this was not expected to offset the decline in yield from the older areas.

These figures revealed very clearly that the outcome of a policy which prohibited new planting, while permitting a large measure of replanting, would be a large reduction in the smallholders' share of total rubber production. The rate of decline of the physical productivity of smallholders' rubber assumed for the calculation was almost certainly too steep, and the estimates of future physical capacity were unduly pessimistic; this was stated in the memorandum, as well as in the course of its discussion by the I.R.R.C. But while it might have been conjectural just how rapidly, and to what extent, the estates would have gained supremacy as a result of the planting provisions, the general trend was both unmistakable and unavoidable. Because of the replanting of estates with high-yielding material, the smallholders would be ousted as economic competitors, even though their physical capacity still remained in existence (or even if it remained intact, which was, however, impossible), and this, however efficient they might have been at the outset.

With these obvious considerations clearly before them, the Committee, who had decided on unlimited replanting in February, now resolved on a total prohibition of new planting throughout 1941, the position to be revised again at the end of that year. Disregarding the chronological order, it may be stated that it was then decided to prohibit new planting completely for the remaining period of regulation.

7. While the threat to the position of the smallholders (the lowest-cost producers) was the most striking feature of the planting provisions of rubber regulation, two further points need to be recorded. First, as the authorities insisted that replanting should take place on the exact area of the previous stand, improved planting material (chiefly high-yielding budgrafts) was frequently wasted, as it had to be planted on exhausted or unsuitable soil, or on badly sited plantations.

Secondly, replanting expenditure was admitted as a charge against income tax by the revenue authorities, while the assess-

[1] Holdings, rather than trees, since a prime cause of the decline in yields with age is the loss of stand through disease and windfalls.

ment for restriction purposes of areas cut out for replanting was maintained. Thus, when in 1940 the British excess profits tax was raised to 100%, companies earning in excess of their standard profits had everything to gain and nothing to lose by replanting on a larger scale. In 1940 there was a great increase in replanting activity, which continued at a rising rate until January 1942, absorbing ever-increasing amounts of scarce resources, and aggravating the deficiency of exports which developed early in 1941. No action was taken by the authorities; in fact, replanting was encouraged by the maintenance of the assessments of the old area. Only the Japanese conquest put an end to the replanting campaign, and to the waste of resources involved.[1]

III

8. Throughout the regulation period there was fairly free, though not altogether unrestricted, transfer of export rights in the principal producing territories. Table IX summarises the price of these rights during the second month of each restriction quarter; this month has been chosen to eliminate the often violent fluctuations in the price of these export rights at the very beginning and end of the quarter. The qualifications and sources of the data are set out in Note B at the end of this article. It should be noted that the Malayan prices of estate export rights and smallholders' export coupons are up-country quotations, and $1\frac{1}{2}$–2 cents per lb. should be added to these for export duty and transport costs to render them comparable to the Singapore price, which was the world price after payment of duty.

[1] Mr. P. Lamartine Yates' *Commodity Control* (1943), which purports to give an impartial review of rubber regulation, does not mention the implication of the planting provisions of the scheme, and does not refer to the internal division of the quotas, or to the under-assessment of the smallholders. On the other hand, the book states: "The native, like peasants everywhere, tends to produce more rather than less when the price begins to fall. . . . In general the reaction to a price fall is quite insignificant; indeed, there is no experience to show how low the price would have to fall before native output was seriously curtailed" (p. 115). These are remarkable propositions. The forward-rising supply curve of smallholders' rubber emerged quite clearly during the slump years. For instance, N.E.I. native rubber exports fell from 107,000 tons in 1929 to 61,000 tons in 1932, exports from Sarawak (practically all smallholders' rubber) from 11,000 tons in 1929 to 7,000 tons in 1932. Moreover, in these territories, as elsewhere in the East, there was a steep rise in the area reaching maturity after 1929 (reflecting the Stevenson boom in the mid-1920's), so that in terms of capacity working the supply was much more elastic than would appear from export or production figures. Smallholders' output was substantially curtailed in every important producing territory during the depression. These facts can be ascertained from the most easily accessible sources.

Prices of Exports Rights and of Coupons and Market Price of Rubber in the Second Month of each Quarter, **1934–41.**

		Malaya.				N.E.I.			Ceylon.	
		Price of export rights. (1)	Price of coupons. (2)	Singapore price of ribbed smoked sheet. (3)	Estate rights. (4)	Batavia price of ribbed smoked sheet. (5)	Native coupons. (6)	Singapore price of medium blankets (in guilder ¢ per ½ kilo). (7)	Price of rights. (8)	Colombo price of ribbed smoked sheet. (9)
		Straits ¢ per lb.				Guilder ¢ per ½ kilo.			Rupee ¢ per lb.	
1934	August	—	9	25	—	23	—	—	21	36
	November	—	12	21	—	19	—	—	7	30
1935	February	See Note B	12	21	See Note B	19	—	No general individual restriction (See para 5).	19	31
	May		13	20		18	—		19	29
	August		11	19		18	—		20	28
	November		16	22		20	—		23	32
1936	February	—	20	25	—	22	—	—	29	38
	May	—	17	26	—	23	—	—	29	38
	August	—	16	27	—	24	—	—	31	39
	November	16	16	30	—	34	—	—	34	46
1937	February	17	20	36	19	39	22	40	32	54
	May	11	15	36	13	39	13	38	31	53
	August	5	7	30	22	32	15	31	29	44
	November	6	8	23	18	25	10	24	24	33
1938	February	15	14	23	20	23	11	24	25	34
	May	11	11	19	16	19	13	18	20	27
	August	19	19	27	23	27	18	28	31	39
	November	20	22	28	24	28	16	30	31	42
1939	February	20	21	27	23	28	20	29	32	40
	May	21	22	28	24	28	20	29	33	41
	August	20	20	28	24	30	13	30	32	43
	November	24	23	39	22	36	18	35	24	52
1940	February	23	22	38	22	33	16	34	23	55
	May	22	23	37	23	33	16	34	28	55
	August	17	18	37	21	32	13	32	19	55
	November	16	19	39	20	34	17	34	28	58
1941	February	13	18	36	13	30	14	32	19	49
	May	9	18	41	8	36	19	38	16	61
	August	8 (July)	4	39	3	33	13	34	10	56
	November	Not available				33	5 (Oct.)	34	1	56

These figures are of particular interest for the first half of 1937, the second half of 1940, and for 1941, as the I.R.R.C. maintained that the releases ruling during these periods represented unrestricted production, and that supplies could not have been increased by higher releases. They were particularly emphatic that the 100% release of the first three quarters of 1941 represented full production. The *History of Rubber Regulation* also claims that output at these three periods was unrestricted. A glance at the price of export rights in 1937, 1940 and 1941 makes it clear that there was substantial restriction, with export rights worth over one-half of the market price of rubber.

IV

9. The operation of rubber restriction in Malaya in 1941 offers one of the rare opportunities of measuring quantitatively the effect on output of 100% excess profits tax. During the restriction years the Rubber-Growers' Association furnished returns to the I.R.R.C. of the costs and outputs of its constituent members. In 1941 the R.G.A. returns for Malaya covered over 90% of the output of the properties owned by sterling companies—*i.e.*, by enterprises liable to the British excess profits tax. By deducting the standard assessments and the production of the R.G.A. estates from the total Malayan estate quota and from the aggregate Malayan estate production, interesting results are obtained which are summarised in the following table. There are no data beyond August.

TABLE X

Rate of Production (as per cent. aggregate standard production) of Malayan Estate Producers, January–August 1941.

	R.G.A. estates.	Other estates.	All estates.	Internal rate of release.
January	91·5	95·0	93·1	97·5
February	82·3	93·1	87·4	97·5
March	78·0	87·0	82·2	97·5
April	74·7	86·6	80·3	97·5
May	76·6	95·6	85·5	97·5
June	87·4	95·8	91·1	97·5
July	89·4	97·8	93·9	97·5
August	87·9	98·5	92·9	97·5
Total, Jan.–Aug.	83·6	93·7	88·3	97·5

The divergent production trends cannot be attributed to shortages of labour or of materials, since the locally-owned estates

and those owned by sterling companies were equally affected. It is possible to ascertain roughly the relative responsibility of over-assessment and of 100% excess profits tax for the lower rate of production of the sterling companies. During the first half of 1940 (when production is seasonally low owing to wintering) the average internal rate of release in Malaya was 78¾% (the international rate being 80%, with an internal cut of 2½% in the second quarter). Over these six months, when output was not yet affected by 100% excess profits tax, the R.G.A. estates produced at the rate of 72½% of their aggregate standard production, and all other estates at 77½%, which showed that the R.G.A. estates already found it more difficult to produce the permissible amounts than did the other estates. During the first eight months of 1941, when excess profits tax at 100% was in force, the gap between the performance of the R.G.A. estates and that of the locally-owned estates was about 10% of standard production, as against 5% in the first half of 1940, and from this it may be inferred that the two factors (over-assessment and 100% excess profits tax) were about equally responsible in 1941 for the poorer performance of sterling company-owned estates, compared to other Malayan estates. In addition, the output of all estate producers was adversely affected by the shortages resulting from the wasteful use of labour and of materials by the sterling companies, encouraged by the 100% excess profits tax.

10. Although, as we have seen, output was far from unrestricted in 1941, there developed a substantial shortfall of exports below the permissible levels, which, incidentally, furnished a specious basis for the argument that output was unrestricted. The following table, derived largely from the *Statistical Bulletin* of the I.R.R.C., summarises the export deficit up to the outbreak of the Japanese war.

The performance of the N.E.I. natives throws some light on the fairness of the quotas. The natives were all the time straining at the leash, and would have produced much larger quantities, but under the restriction scheme were unable to do so.

11. The substantial export deficits of 1941 caused much anxiety in official circles, and in the spring and summer a series of meetings was held in London to consider how supplies could be increased. It was eventually decided to appeal to producers and to their Governments to produce more rubber. As, however, these Governments were engaged in operating the restriction machinery, and in enforcing international and internal cuts,

TABLE XI

Permissible and Actual Exports of Rubber, January–November 1941.

	Exports (thousand tons).		Deficit.	
	Permissible.	Actual.	Quantity (thousand tons).	As per cent. of permissible exports.
Malaya	611	561	50	8
N.E.I. estates	312	275	37	12
N.E.I. natives	301	304	3	+1 (excess)
Ceylon	99	82	17	17
Sarawak	44	35	9	20
British North Borneo	20	18	2	10
India *	16	2	16	89
Burma	14	9	5	36
Siam	54	43	11	20
Total	1,473	1,329	144 †	10

* India was a special case, as her rubber manufacturing industry was developing so rapidly during 1940–41 that she became a net importer of rubber after mid-1941.

† The shipping shortage cannot be held responsible for the export deficit. Rubber was a high-priority cargo, and there was no excessive accumulation of port stocks. Moreover, Singapore and Penang were outside the export regulation area, and rubber despatched from the Malayan mainland to these shipping ports counted as export under the regulation scheme.

this appeal was not successful. The restriction machinery was kept in operation to the very end, and indeed beyond, since in Ceylon it was not abandoned until June 1942, after energetic representations by the Commander-in-Chief, who pointed out that the employees on the staff of the Rubber Controller could be more usefully employed elsewhere. This proposal was unsuccessfully opposed in London. In other territories the machinery operated literally until the arrival of the Japanese. In January 1942 the restriction authorities in British North Borneo were just in time with their formal report to the I.R.R.C. that on December 31, 1941, there was no abnormal accumulation of stocks (contrary to the provisions of the regulation scheme) on smallholdings in that territory. That document was posted some two, or possibly three, days before the conquest of North Borneo by the Japanese. Till the end, restriction was not abandoned, the quotas were not redistributed in favour of under-assessed producers, the employment of labour on replanting was not prohibited, the assessment of producers falling behind with their exports were not reduced, the cost of replanting was not disallowed for taxation purposes, while the assessments on areas cut out for replanting

were fully maintained as a bonus for replanting. Very belatedly, towards the end of August 1941, the rate of release was raised to 120%, and this was followed by a sharp fall in the price of export rights; the issue of coupons and rights was, however, still rigorously maintained.

V

12. Some tentative conclusions are suggested by this brief review. It is, for instance, clear that when full weight is given to the importance of smallholdings, ideas of the supply price of natural rubber need drastic downward revision; a point of significance in assessing the measure of assistance which would be necessary to maintain in profitable operation the American synthetic rubber industry in competition with the plantation product.

Wider issues are also raised. As already mentioned, the leaders of the Malayan and of the N.E.I. delegation to the I.R.R.C. were civil servants; the administration of restriction in the East was also in the hands of civil servants. Yet the smallholders could hardly have been treated worse if the whole machinery had been operated by estate representatives.[1] Indeed, the "order" which replaced "chaotic competition"[2] was rather like the law of the jungle. One is forcibly reminded of a sentence of Alfred Marshall in his *Principles*:

> "In many cases the 'regulation of competition' is a misleading term, that veils the formation of a privileged class of producers, who often use their combined force to frustrate the attempts of an able man to rise from a lower class than their own."

Nor does the outcome serve to confirm the hopes of those who hold that government of industries by trade associations may be made acceptable if they are provided with impartial chairmen. The experience of rubber regulation also emphasises that when Government intervenes in economic affairs the lack of knowledge of economics on the part of civil servants is likely to prove a serious drawback. The inability to see that output cannot be unrestricted when exports rights are fetching high prices is

[1] An R.G.A. recommendation of 1933 suggests that the smallholders might have even fared better under such an administration; cf. p. 395, note 2, above.

[2] There is no technical reason why competition should be impracticable in the rubber industry. The tiny smallholdings are probably the most efficent producers, and even on the estate side the optimum unit would on all reasonable assumptions produce less than 1% of this perfectly standardised commodity.

but one instance among many failures to grasp very simple points.[1]

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NOTE A

Although some of the figures in Table VII contain an element of estimate, they well illustrate the working of the special export tax. The figures in columns 10 and 11 for the last seven months of 1934 and for the years 1935 and 1936 are not the simple averages of the monthly percentage figures, but the averages of the monthly percentages weighted by the corresponding various prices. Conversion of various items from guilder cents to pence, with inevitable rounding off, also involved a few small inaccuracies in calculating the percentages.

Throughout most of the period reviewed, the bulk of N.E.I. native rubber was marketed as medium blankets; hence the choice of that grade for the prices in column 1.

There is a wide measure of agreement among competent authorities on the average cost of transport, processing and middlemen's charges from the most important native districts to the Singapore market. Dr. Whitford and the N.E.I. authorities estimated the figure at about 4 to 5 guilder cents per ½ kilo of dry rubber in the mid-1930's. The largest remiller in Singapore has recently, in private conversation, given an independent estimate of 4½ guilder cents. A figure of 4 cents has been adopted in the tables, to ensure that any error should be on the side of conservatism and should understate rather than overstate the burden of the tax. About ½ cent has been taken to represent the cost of transport and middlemen's charges from the interior to the N.E.I. port of shipment, and the balance as the cost of shipping to Singapore, and of processing and marketing there. These figures exclude the ordinary *ad valorem* export duty which has been calculated, as it was levied, on the basis of 5% of the export value of native rubber during the second preceding month.

The average rate of duty in the table refers to the effective rate in force and not to the rates announced during the month; hence the zero rate for June 1934.

The violent fluctuations in the net return to native producers (column 6) indicate the disproportionate effect in the interior of changes in the market price or in the rate of duty. There is room here for an appreciable margin of error in any given month, but the yearly, or even quarterly, averages are unlikely to be seriously affected.

[1] A remarkable fallacy, which has found its way into many official publications on the rubber industry, blames the transferability and the high prices of export rights for rural unemployment and for the substantial areas left untapped. These were said to be the result of sales of export rights. Yet it is clear that when one person sells rights (and therefore taps fewer trees), someone else must buy them. The rural unemployment and the areas out of tapping reflected, of course, the degree of restriction under the regulation scheme.

The export figures are accurate; the wide month-to-month fluctuations reflect the reaction of shippers to the announcement of changes in the rate of the special tax, and to a lesser extent their views on the probable course of the market. There was a time-lag between the announcement of changes in the rate of the special tax and the date the new rate applied to dry rubber, and this led exporters to accelerate or withold shipments in the interim period. These erratic fluctuations cancelled out over a period, and did not affect total shipments over, say, six months.

NOTE B

In official Malayan and N.E.I. terminology, export rights referred to estate export rights, as distinct from smallholders' coupons; in Ceylon there was no distinction. The official usage has been followed in the table. In the N.E.I., with negligible exceptions, estate rubber could not be shipped on native rights or vice versa. In Malaya there was no complete ban, but, for various reasons, rights and coupons were not always fully interchangeable, hence the different sets of prices.

The market in export rights was sometimes narrow, and there were occasional erratic variations (*e.g.*, Ceylon, autumn 1934), but the quotations shown well reflect the general trend. It will be recalled that the Malayan prices of rights and coupons were up-country quotations. Some 1½–2 cents per lb. must be added to these for export duty and transport costs to make these quotations comparable to the Singapore price of rubber.

There are no regular quotations of the price of estate export rights before January 1937. Some sporadic figures are available from miscellaneous sources, and these suggest that in 1934 in Malaya the price of these rights was low, as many estates found it difficult to produce their full exportable amount in that year. In 1935 and 1936 the price of estate export rights was fairly high, both in Malaya and the N.E.I.; 12–16 Straits cents per lb. and 14–16 guilder cents per ½ kilo indicate the approximate order of magnitude. Transactions in these rights were, however, on a small scale until the period of high releases in 1937. The purchase in 1935 by the N.E.I. Government of 20,000 tons of rights for cancellation to reduce over-exports was an important exception. Some 29 cents per kilo was paid for these rights.

Medium blankets were, of course, quoted in Straits cents per lb., and the price has been converted at the average monthly rate of exchange between the Straits dollar and the N.E.I. guilder.

The Malayan quotations of estate export rights from 1937 to 1940 are from the *Annual Reports* of the Controller of Rubber, Malaya. No report was issued for 1941, and the figures represent the transactions of a few large companies to whose records the writer has had access. The prices of estate export rights in the N.E.I. have been taken from the *Economisch Weekblad*. The Ceylon quotations are from the *Administration Reports* of the Rubber Controller, Ceylon.

The coupon prices are somewhat approximate. For Malaya, the *Malayan Agricultural Journal* frequently published these, but occasionally this information had to be supplemented by reference to various other sources. Moreover, while export rights were transferable between Administrations, coupons could be transferred only within each Administration (Straits Settlements, Federated Malay States and each Unfederated Malay State), and there was thus one price for rights, but several prices for coupons, and there were often considerable local variations. The prices given here refer principally to Perak and Johore, and occasionally to Selangor; these States contain the great bulk of the smallholdings area in Malaya.

The N.E.I. native coupon prices are the quotations in Palembang, and have been taken from the official *Reports on Native Rubber Cultivation* up to May 1940, and thereafter from the *Market Reports* of the Rubber Trade Association of the N.E.I.

It will be noted that at times of high releases (especially 1941) coupons were usually worth more than estate rights, while the reverse ratio held at times of low releases. The former relation reflects the under-assessment of the smallholders; the latter is explained by the comparative ease with which the smallholders could, at times of lower releases, turn to other products such as rice and coconuts.

INCENTIVE FOR SOVIET INITIATIVE

In a previous note [1] the activity of Soviet inventors from 1931 to 1940 was reviewed in relation to the Act of 1931. A new invention Act [2] was ratified by the Council of Commissars on March 5, 1941. Although repealing the earlier Act, and although reduced in length from 10,000 to 5,000 words, the new legislation confirms the success of the principles and procedure introduced during the First Five-Year Plan. A complementary Awards Decree,[3] increasing the minimum and maximum payments and scheduling the system of computation in much greater detail, was passed by the Council of Commissars on November 27, 1942, but there is no evidence to account for the twenty-month time lapse between the two.

A *Pravda* editorial,[4] which appeared six weeks after the ratification of the new Act, is almost entirely devoted to paragraph 19, designed to circumvent bureaucrats and procrastinators "who try to brush off inventors like pestering flies." [5] In order to eliminate the "get-rid-of-technique" adopted by certain office-workers in Commissariats towards these "funny people," paragraph 19 lays it down that plants and other concerns must accept or refuse inventions and technical suggestions within ten days, that trusts—combinations of several plants and concerns in the same field of industry—must make their decisions within twenty days, and Commissariats within two months. Acceptance of a suggestion may only mean acceptance for further development prior to exploitation; rejection may mean outright rejection or merely rejection "for further trial and experiment." Paragraph 13—the last paragraph of Section I (General Rules) in the

[1] Economic Journal, June–September 1945, Nos. 218–19, pp. 291–7.

[2] *Sobranie Postanovlenii i Rasporiazhenii Pravitelstva Soyuza Sovetskikh Sotsialisticheskikh Respublik* (*Collection of Government Acts and Decrees of the U.S.S.R.*), March 25, 1941, No. 9, Art. 150—*Polozheniye ob Izobretieniyakh i Tieknitcheskikh Ousovershenstvovaniyakh* (*Act Governing Inventions and Technical Improvements*).

[3] *Instrouktsiya o Vosnagrazhdienii za Izobretieniya Tiekhnitcheskiya Ousovershenstvovaniya e Rationalizatorskiya Predlozheniya* (*Decree on Awards for Inventions, Technical Improvements and Manufacturing Suggestions*), November 27, 1942.

[4] *Pravda*, April 15, 1941, No. 104 (8512).

[5] "It amazes me that officialdom is so blind, obtuse and smugly self-satisfied when approached or confronted with *any* constructive or revolutionary idea." Letter from H. W. Joy in *Truth*, August 25, 1944.

1941 Act—declares that "those guilty of bureaucracy and procrastination during the examination, work-out and incorporation into production of inventions and technical improvements and those guilty of withholding or delaying the payment of awards to authors are liable to dismissal from their employment and to legal proceedings."

Examination for utility by a Commissariat or by one of its subsidiary units does not embrace the question of novelty. Decisions on novelty are made by the Invention Bureau of the State Planning Commission [1] at the request of the Commissariat concerned, and must be completed within two months (paragraph 33). Within another two months of this novelty decision being returned to the Commissariat, the Commissariat must decide whether an Authorship Certificate or Patent will be granted or not (paragraph 32). If a grant is to be made, a copy of the approved specification is immediately communicated to the applicant. The applicant is then permitted one month to file objections. These objections must be irrevocably decided within one month by the Commissariat (paragraph 35). It will be seen that the cycle in this procedure cannot exceed eight months, which compares with an average period of twelve to eighteen months for the grant of a Patent by the British or American Patent Offices. It should be noted that the new Act confirms the absolute powers of decision upon questions of utility and novelty by the Commissariats, which were not originally conferred upon them under the Act of 1931, but which they obtained in an emergency decree dated July 19, 1936, an event which appears to have coincided with the dissolution of the Council for Labour and Defence when the new Constitution was introduced.[2]

In much the same respect, complaints of restriction and procrastination oppressing lone inventors—directed equally against the Government and private enterprise—continually appear in the presses of the Western countries.[3] To what degree this inevitable

[1] Commonly known as GOSPLAN—also responsible for central registration, publication of the Official Journal, documentation of Invention and Patent literature both national and foreign, and maintenance of the All-Union Patent Technical Library (paragraph 50, 1941 Act).

[2] See ECONOMIC JOURNAL, *op. cit.*, p. 293, footnote 1.

[3] Typical extracts from British press: *Southern Daily Echo*, January 18, 1945: "There must be thousands of useful ideas floating about in the minds of intelligent people, who are precluded from developing them into practical propositions by reason of the prohibitive cost and financial risk involved in taking out a patent. . . . Brains should serve the community as a whole and should not be subservient to Big Business." *Dorset Daily Echo*, November 24, 1944: "My grievance—and it may well be the experience of other inventors—is that it was pigeon-holed for over 30 years when it may well have been the means of saving thousands of

problem may be judged as really serious in the Soviet Union, or merely fractional in proportion to the general rate of progress, only Commissars can tell. The problem is an obvious target for penetrating propaganda—it mollifies both the practical and impractical inventor—and to the Soviet administrative mind it appears additionally to be a logical issue for legal proceedings. As far back as May 22, 1933, the Supreme Court of the U.S.S.R. (Directive No. 43) drew the special attention of Public Prosecutors to "procrastination crimes in connection with the utility of inventions, to delays in the first examination of suggestions submitted, to hold-ups in development work and the appointment of experts for trials, etc." In October 1939 the Editor of the Official Soviet Invention Journal strongly urged a correspondent in Kazan to submit a complaint of this nature "to the nearest Public Prosecutor." [1]

The new Act makes clear the underlying classification of Soviet initiative. The first level comprises those engaged in fundamental research in natural science, social science and the arts. The activities of this very refined division are not, of course, covered by the Act, since their membership is too privileged and too restricted to escape continuous assistance and encouragement. On the second level membership is too large to be personal—say 50,000 to 100,000 in all. It is educated technically, it can be trusted with rights, acquired as a recognition for achievement, provided these rights are enjoyed as facilities. On the lowest level, the principle is pursued that a great mass of initiative, interest and empirical intelligence exists in small driblets, which can be channelled to form an ocean of real savings provided there are sufficient small receptacles to receive them. Decision for this third level must seek its wisdom on the spot from those holding authority and responsibility on the spot. A strong distinction is made between the two mantles, between the plant manager

lives in the last war." *Nottingham Evening News*, March 8, 1945: "How far are our statesmen directing policy from the social consequences of information gleaned from the Patent Office?"

[1] *Bulletin Gosudarstvennovo Buro Posleduuche Registrazii Izobretenii pri Gosplana C.C.C.P.*, October 1939, No. 10, p. 68. Also compare *Sovetskaya Justicia*, June 1935, No. 18, p. 1, l.c. 5: "From 9 in the morning to 5 in the afternoon a single court staff reviewed and decided 25 cases, which allowed an average of 19·2 minutes per case. If you take into consideration the fact that in some of these cases there were as many as 10 defendants, you can judge the quality of the work of this section of the Supreme Court. It is true, the cases were appeals, but even appeal cases should be carefully considered before a decision is rendered." Statement by Vishinsky, at that time Government Prosecutor of U.S.S.R., quoted by K. M. Thorpe, *Journal of the Patent Office Society*, October 1935, Vol. XVII, No. 10, p. 833.

and the trade union representative. There will be many bad small decisions, what can you expect?, but the buckets will fill in time, provided the principle is protected from triviality and monotony. "The Government will support any one inspired with creative thought." [1]

Really conclusive evidence about the potentialities of this third division was presented by Malyshev, the Commissar of Medium-Machine Building, concerning the work of his industrial subsidiaries for the year 1940. There were 46,145 suggestions adopted within his Commissariat during that year, of which 37,743 were actually exploited—he criticises his executives for holding up the other 18% (8,402). Unfortunately he does not quote the total economy or savings accruing from the total of suggestions actually exploited, but he does single out the combined results of three large factories under his control. "From the exploitation of inventions and technical improvements in these factories alone last year [1940] the State benefited to the extent of over 44 million Roubles [£1,760,000]" in savings, which included economies of "over 9,000 tons of ferrous metals, nearly 1,500 tons of non-ferrous metals, and 2,500 tons of fuel oil." [2]

We may assume that at least 10%—that is, £176,000—of these savings were paid out in awards for suggestions adopted at these three factories, although it should be borne in mind that the evidence does not exclude the possibility that some of these suggestions may have come from concerns under the jurisdiction of another Commissariat, and some of them may not have been adopted initially in 1940. In any case, the incidence of either possibility would not be great. If we now relate this figure of £176,000 to the minimum average award, which could have been claimed by the authors of the 37,743 suggestions adopted by the Commissariat for Medium-Machine Building during 1940, we shall have some evidence upon which to estimate the total payment in awards by this Commissariat for the year,

[1] *Pravda*, *op. cit.*, and compare with the following from *Tomorrow's Business*, by Beardsley Ruml, published by Farrar and Rhinehart, Inc., New York, 1945: "Since the demand for freedom is a demand for conditions that favour the achievement of full richness of personality and individuality, the specifications necessarily change from time to time and from person to person. It is for this reason that so little is required by many, and so much by a few. . . . Certainty of expectation is indispensable to the exercise of freedom. . . . Prudence dictates the lessening of the harmful influences even at the cost of some efficiency in the making of things which can be sold" (pp. 7, 21 and 24). By "harmful influences" Ruml means monotony, lack of choice, triviality. Ruml was the "inventor" of Pay-As-You-Earn, is now Treasurer of the largest department store in the world and Chairman of the Federal Reserve Bank of New York.

[2] *Pravda*, *op. cit.*

and a yardstick for estimating the possible gross total by all the Commissariats for the whole of the Soviet Union. The minimum award for an invention was £4, for a technical improvement £2, and for an organisational suggestion £1 in 1940.[1] An overall average of £2 per suggestion would produce £75,486, at £5 per suggestion £188,715, and at £8 it reaches £301,944. For an award of £8 the annual savings resulting from the proposal would have to be £30, either for an invention or for a technical improvement. Annual savings (economy) represent the difference—on the best year of five successive years—expressed as gross profit between the cost of the original product and its cost consequent upon the introduction of an invention or other improvement in manufacturing methods. Where the savings cannot be calculated in such hard-and-fast terms—*e.g.*, increased fuel efficiency in tractors, an instance where improved quality provides the eventual economy—the plant director or the chief of the administrative head office is authorised to estimate at his discretion the gross profit accruing to the nation as a whole. Development expenses for drawings, prototypes, etc., are not chargeable against annual savings for the purpose of calculating awards in either the 1931 or 1942 Award Decrees. This seems to be a wise concession.

Having regard to the minimum award figures, which have been illustrated, it is the author's conclusion that the Commissariat of Medium-Machine Building paid out in awards for 1940 a gross total of at least £250,000, and that it was probably considerably more. There are ten other industrial Commissariats with technical interests of a nature likely to stimulate an equivalent or greater catch of suggestions producing a high annual economy factor and capable of quick realisation. They are: Aviation Production, Cellulose and Paper Industry, Chemical Industry, Electrical Industry, Ferrous Metallurgy, Heavy-Machine Building, Light Industry, Non-Ferrous Metallurgy, Oil Industry, Textile Industry. In the second bracket—say total awards of £150,000

[1] In a British precision instrument plant known to the author, awards for technical improvements from August 1942 to July 1944 averaged 37*s.* 6*d.* per award. The ratio of suggestions received to total employees (average 2,500) was 13% and of suggestions accepted 4%. The Pullman Company of U.S.A. paid 66*s.* per suggestion in 1943, the ratio of total suggestions received to total employees (average 31,500, including sleeping-car porters, etc.) equalled .96%, and the ratio of suggestions accepted 16%. It is generally recognised that the drawing power of the award is proportional to the wages paid. Drucker says: "In the last years before the war, an unskilled man on a Russian assembly line was paid 125 Roubles [£5] per month."—*Saturday Evening Post*, July 21, 1945, p. 11. Plant managers, chief engineers, chief accountants generally received between £80 and £120 per month.

per annum—we have the Commissariats dealing with Building Materials, Coal, Communications, Machine Tools (not yet a large industry), Rubber and Shipbuilding. In the third category there are six food Commissariats, the Timber Industry, Electric Power-Stations, Railroad Transportation, Mercantile Marine, River Fleet and Building, for which a minimum average total of £50,000 in awards by each Commissariat does not appear exceptional. Omitted from this list are the three Commissariats strictly for munitions, but for which we may allow £100,000 each. The gross estimated minimum total of awards for the whole Soviet economy in 1940 is £4,550,000,[1] and for the sake of proportion we may assume that it represents nett savings, of which the other 90% accrued to the nation as a whole, subject only to administration and development expenses. It must not be forgotten that these annual net savings accumulate and expand according to the extension of their incidence, and that the awards are payable only once.

In the new Awards Decree (1942) the changes in the scales of payment indicate the growing significance of minor suggestions qualifying for the minimum payments. For inventions covered by Authorship Certificates the minimum award has been increased from £4 to £8, and the limit has been raised from £20 to £40 for the lowest annual economy rating to yield 30% as before. In the case of technical improvements the corresponding minimum award has been raised from £2 to £6, but the percentage payment on the lowest economy has been decreased from 30% to 25% up to the first £40. The minimum award for a manufacturing suggestion is increased from £1 to £4, and the minimum percentage decreased from 15% to 12½% on the first £40. The intermediate percentage payments remain the same with very slight changes, but the maximum claims are increased for inventions and technical improvements, when the annual economy exceeds £40,000—inventions from £4,000 to £8,000 at 2% plus £840, for technical improvements from £2,000 to £4,000 at 1% plus £440, and for organisational suggestions the maximum remains the same at £1,000 based on ½% of the annual economy plus £220. According to paragraph 2 of the new Decree, manufacturing suggestions

[1] It is even more difficult to estimate for the United Kingdom and the United States the annual total paid out in patent royalties both direct under licence agreements and hidden royalties—but excluding royalties received from abroad—plus *ex gratia* payments to industrial workers. If in the U.K. the annual royalty total is not less than £3,000,000 plus £750,000 for suggestion schemes, then the author estimates that the corresponding U.S. totals are not less than £20,000,000 plus £5,000,000. The U.S. national tempo is much more highly trained and orientated towards the application of these incentives.

no longer cover "rationalisation proposals for the improvement of system and management, for instance proposals designed to simplify or improve accountancy, documentation, supply, distribution, etc." No doubt the eligibility of such proposals for awards under the first Decree of 1931 proved just as complicating and harassing as the financial patents which resulted from that sincere, but impractical document, the first French Patent Act of 1791, and which were quickly abolished by the National Assembly, despite the logic of offering incentives for initiative in this field.

One further concession has been made to the inventor in the new legislation. Paragraph 70 of the Act raises the tax-free allowance from £240 to £400 for an award or awards paid for inventions and technical improvements. It looks, however, as if the *bona fide* inventor has lost his claim to two weeks additional holiday, since the new Act does not mention it.[1] From correspondence in the Official Journal the popularity of this concession was obvious—just as obvious as the management disputes to which its dispensation gave rise. Several attempts were made by *bona fide* inventors to include their uninventive pals as co-authors of their inventions, solely that they might benefit from this right to which free travel permits appear to have been added by some concerns. On the other hand, the new Decree does introduce compensation for collaborative development by the colleagues of an inventor (Section III, paragraphs 21–25 of the 1942 Awards Decree). Suggestions financed under general exploitation or manufacturing budgets may include awards to collaborators at the plant director's discretion. Collaboration awards for suggestions financed from funds specially assigned for the purpose must be approved by Administration Head Offices or by Commissariats. Such awards may not exceed 25% of the award paid to the original author of the suggestion, and will be additional to, but not deductible from, the amount he actually received. No individual collaborative award may, however, "exceed his two months' salary or wages "—a sensible regulation which any British or American plant executive would appreciate.

We have noted the general tendency to increase under the new Decree those awards having a flat payment—*i.e.*, the minima and the maxima. On January 11, 1942, Stalin, as Chairman

[1] Paragraphs 100 and 105 of 1931 Act. Of course it is possible that this question of extra holidays has now been covered in special holiday legislation, or since it has not been specifically thrown out, the idea might be to leave the matter on an "unofficial basis."

of the Council of Commissars, a position which he used not to hold before the outbreak of war, and Andreev,[1] as Secretary of the Central Executive Committee, signed a Decree,[2] published on March 16, 1942, which sets out in less than 250 words the divisions of science, invention, arts, and literature, to which contributors of "especially distinguished work" are now entitled to 160 graduated annual awards totalling £554,000 (13,850,000 roubles).[3] The five annual prizes of the Nobel Foundation, when they are awarded, amount to a total of approximately £42,500. Amongst the winners of these Stalin Prizes in 1943 was Kapitsa, who gained one of the top £8,000 physics prizes for "his discovery of super-fluidity in helium," [4] and that despite the fact that he had only recently been objecting strongly to the demand "to influence technology by way of personal direct translation of his ideas into practice." [5] There are no rules or regulations in this Decree as to who will make the selection of prize-winners—presumably Commissars will make personal recommendations to their own Council or to the Central Executive Committee—but the last sentence reads: "In adjudging Stalin Prizes for 1941 [*i.e.*, retrospectively] preference must be given to work and inventions connected with National Defence." The grand total is divided up as follows: £288,000 for twelve branches of natural and social sciences, making 52% of the total; £108,000, or 19·5%, to nine branches of the arts, including "artistic and documentary films" as two branches; £48,000, or 9%, to four branches of literature; and sixty prizes for inventions, comprising ten first prizes

[1] Andreev—sometimes spelt Andreyev—has been described as the "faithful disciple and closest associate of Stalin." From shepherd, to railway worker, to boss of the railway trade union, he helped turn all labour against Zinoviev and Trotsky. He once opposed Lenin and Stalin by endeavouring to have the Trade Unions run Soviet industry. Now a Vice-Chairman of the Council of Commissars, his chief responsibility is agriculture, and it was his drive that persuaded the party machine to carry through collectivisation.

[2] *Sobranie Postanovlenii i Rasporiazhenii Pravitelstva Soyuza Sovetskikh Sotsialisticheskikh Respublik* (*Collection of Government Acts and Decrees of the U.S.S.R.*), No. 1, March 16, 1942.

[3] See *Managerial Revolution*, by James Burnham, John Day Company Inc., New York, 1941, p. 46 (quoting Leon Trotsky from an article published late in 1939): ". . . the upper 11% or 12% of the Soviet population now receives approximately 50% of the national income. This differentiation is sharper than in the United States, where the upper 10% of the population receives approximately 35% of the national income." See also quotation from Ruml, *op. cit.*

[4] *Advancement of Science*, British Association, Vol. III, No. 9, September 1944, p. 76, article by Alexander Fersman, Director of the Lomonosov Institute of Geochemistry, Crystallography and Mineralogy of Moscow.

[5] Address to the Praesidium of the Academy of Sciences of the U.S.S.R., by P. L. Kapitsa, May 18, 1943. Reprinted *Vestnik Akademii Nauk*, S.S.R., No. 6, 1943.

at £4,000 each, twenty second at £2,000 each, and thirty third at £1,000 each, making £110,000, or 20% of the grand total. The graduation of the invention prizes appears to be significant, since the spacing between them and the larger quantity of lesser prizes is sharply different from the graduation of the other prizes, and shows a hard-headed understanding of how to draw the most for your money. No evidence has been found as to whether an inventor is likely to benefit under the invention legislation and simultaneously or later to receive a Stalin Prize.[1]

This note would not be complete without a reference to the international relationship of Soviet invention legislation. The new Act is disappointing to an eminent and representative body [2] of industrial opinion in this country who desire the adherence of the Soviet Union to the Industrial Property Convention. Whereas paragraph 5 (e) of the 1931 Act reserved three years' grace to a patentee, whether citizen or foreigner, during which period a compulsory licence could not be imposed by a Soviet organisation, in the new Act this condition, which is a cardinal feature of the Convention—Article 5 A (4)—is not mentioned.[3] Admittedly paragraph 5(f) of the 1931 Act tended to weaken this condition, but only if very high powers were sought for very special reasons. Unfortunately, in the new Act 4 (d) is quite unvarnished : " In the case

[1] A good example of the degree of privilege available in the Soviet Union to those on the highest level is to be found in the correspondence columns of the Official Journal (see *op. cit.*) for November 1939. Citizen Uldjaev of Sverdlovsk in the Urals, 1,000 miles east of Moscow, asks : " I am in possession of an Authorship Certificate. Can I apply, as an inventor, for a personal pension ? " Editorial answer : " A personal pension is only given to highly distinguished inventors, whose contributions to Soviet Engineering have been great and who contributed to the stabilisation of the Soviet State. If you have sufficient reasons to consider yourself as one of them, you can apply to the Trade Union Regiona Committee, of whichever Union you are a member, to put through to the Supreme Central Council of Trade Unions a corresponding application to the Commission for Personal Pensions at the R.S.F.S.R."

[2] Trade Marks, Patents and Designs Federation, Ltd., pamphlet, dated July 1945, entitled *Recommendations of Terms for Settlement of International Questions concerning Patents and Trade Marks*, Section IV, p. 8, paragraph 27 : " It is felt strongly that attempt should be made to get Russia (the Union of Soviet Socialist Republics) to adhere to the Industrial Property Conventions but, whether she does or not, the decisions made after consideration of the above recommendations should apply to and be carried out by all the Allies (including U.S.S.R.) as far as possible within their respective national laws."

[3] " In no case can the grant of a compulsory licence be demanded before the expiration of at least three years from the date of the delivery of the patent, and such licence shall only be granted if the patentee is unable to justify himself by legitimate reasons. No action for nullity on revocation of a patent shall be brought before the expiration of two years reckoned from the grant of the first compulsory licence." *Haddan's Compendium*, 1945, p. 419, Harrison & Sons, Ltd., London.

of an invention of special importance to the Government, with regard to which the Commissariat concerned is of the opinion or certitude that no satisfactory licence agreement with the owner of the Patent will be forthcoming, the Commissariat may issue an order for compulsory expropriation of the Patent or for a compulsory licence in favour of an interested concern, simultaneously establishing appropriate compensation." It is to be hoped that this change of viewpoint in 1941 was due to the imminence of war, bearing in mind that the paragraph may have more significance for dealing with Soviet nationals than with foreigners.

Foreigners might be wise to consider applying for Authorship Certificates in certain cases rather than for Patents. (Apparently no foreigner has ever done so. Paragraph 25 specifically requests the address and nationality of foreigners applying for Authorship Certificates.) Foreigners obtain the same rights as Soviet citizens (paragraph 11). Moreover, there are no fees, whereas Soviet Patent fees are not trivial, including £10 10*s.* for the application, £8 16*s.* for the first year, and rising by annual increments to a total of £684 [1] for a duration of fifteen years. It is obvious that nothing can be lost except the cost of translation and re-lettering of drawings, in those cases where the decision to take out a Soviet Patent is negative, and, furthermore, even if no award is gained for any particular invention protected by an Authorship Certificate, the general publicity and good-will gained from the Commissariat concerned might prove considerable. In the dissemination of knowledge invention protection systems play as great a part as the circulation of commercial catalogues.

It seems unwise at this stage, with important industrial and economic reorientations immediately ahead, to infer that Soviet invention legislation is inconsonant with the sanctions of private enterprise under post-war conditions. In the first place, Soviet official policy and outlook as evidenced by its legislation are strongly appreciative of the general features of Western Patent systems, in so far as they encourage the individual inventor with strong and clear-cut incentive. In the second place, it is relevant to remember that Soviet citizens were granted foreign Patents

[1] Soviet fees are the highest in the world—others: Canada, £7; U.S.A., £15 (these two represent lump sum payments, since they have no renewal fees); Switzerland, £110; United Kingdom, £132; Netherlands, £366; and Germany, £562. These totals are based on pre-war schedules. There is no doubt there is a lot to be said for the Canadian and American practice of completing all the payments, both for the application and the final patent, as soon as the grant is assured.

during the period 1930–39 at an average rate of seven per annum in the United Kingdom, nine per annum in the United States, and twenty-eight per annum in Germany. These are not insignificant figures if one remembers that the cream of the Patent crop in Western countries is probably not more than 2% of all Patents granted in any year.[1] Is it not possible that the Soviet Government might itself finance in due course the exploitation of these inventions abroad? Unfortunately, consideration of these points of view is continually distracted by erroneous opinions as to the real Soviet position and as to the actual function of Patents in Western countries. For instance, *The Times* for June 25, 1945, published the following remark: "The visitors have been impressed by the freedom with which the Soviet scientists are able to reveal processes which in other lands would be kept secret from respect for patent rights." The visitors concerned were eminent British and other foreign scientists invited to Leningrad to celebrate the 220th anniversary of the foundation of the Soviet Academy of Sciences. It is quite untrue to suggest that patents restrict the free flow of information—in fact, they are primarily designed to encourage revelations, and to record them for posterity.

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[1] The annual averages of Patents granted to citizens and residents (*i.e.*, excluding grants to applicants abroad) of the United Kingdom, the United States and Germany, respectively, for the ten-year period 1930–39, were: 8,675; 38,413; and 14,947. Taking 2% of these figures we have: 173 British, 768 American, and 299 German. For more complete information as to the international distribution of Patent grants, see *Agenda*, Vol III, No. 3, August 1944, pp. 45–68.

INDUSTRIAL PRODUCTION AND EMPLOYMENT IN PRE-WAR CHINA

1. *Introduction*

In the manufacturing industry section of our work *National Income of China*, 1933,[1] we have made estimates about China's manufacturing production and employment. As the English version of the book is still under preparation and the extent of China's industrialization is quite vaguely conceived, it is perhaps not without interest to set forth and analyse the result of our findings. In this paper we wish to show the size of manufacturing production, the scale and composition of labour force, the relative importance of different industrial groups, the productivity of labour, and the share of wage and salary bills in net output. Incidentally, the points listed above are found to have run parallel to those discussed with regard to Britain, Germany and the United States in an article written by Mr. Rostas.[2] Thus, the ground has been prepared for us to make comparison between China and the other three countries, the result of which is, as the reader will see, appalling.

Three points we must bring out at the outset. First, the figures in this paper are unlike those in our book. This is due to the fact that, in order to put them on a comparable basis, we have made some adjustments by excluding the formerly included public utilities from manufacturing industry and by including the formerly excluded iron and steel works in manufacturing industry. Secondly, owing to the importance of handicraft in Chinese manufacturing industry, we have divided the industry into factory and handicraft, in order to see their relative rôles. But at the same time, because of the lack of available data, the analysis of handicraft has not been set forth along with that of the factory. Thus, whenever the obstacles occur, we have to deal with the factory alone. The term "factory" used in our estimates is defined according to the Chinese Factory Act as those firms

[1] P. S. Ou (Ed.), F. S. Wang, G. H. Djang, L. Y. Ma, C. W. Nan, Y. L. Bai, *National Income of China*, 1933, Institute of Social Sciences, Academia Sinica, 1946. (In Chinese.)

[2] L. Rostas, "Industrial Production, Productivity, and Distribution in Britain, Germany and the United States, 1935–37," Economic Journal, April 1943.

employing more than thirty employees, while "handicraft" covers all other firms, as well as family subsidiary works and independent craftsmen. This entails that, when the comparison is made between Chinese factory production and the manufacturing production in the other three countries, the former seems to be in an unfavourable position. For the scope of manufactures in those three countries is much wider: the British data cover all firms employing more than ten persons, the German, firms with five or more employees, while the American firms whose products were valued at U.S. \$5,000 or more. However, if the comparison is made in terms of output produced, Chinese factory data certainly cover a much broader field. Chinese firms with thirty employees or little more can rarely produce as much as U.S. \$5,000, or as much as the output produced either by an English firm with ten persons or by a German firm with five persons. Finally, our data relate to 1933. This is a year of depression in China. Although we have extended our production estimates to 1936, those estimates are not as accurate as those for 1933. The fact that there is a slightly downward bias when our figures in 1933 are compared with those of the other three countries in 1935 or 1936 must therefore be borne in mind.

2. *The Size of Manufacturing Production*

From Table I we can see that although the total gross output of manufacturing industry is about 24% of the national gross

TABLE I

Summary Results of Manufacturing Production (1933)

	Value (in C\$ millions).	Percentages.
National gross output	31,534 [1]	100·00
Gross output of manufacturing industries: [2]		
Factory	1,895	6·01
Handicraft	5,628	17·85
Total	7,523	23·86
National net output	20,119 [3]	100·00
Net output of manufacturing industries:		
Factory	378	1·88
Handicraft	1,339	6·65
Total	1,717	8·53

[1] This figure is the summation of the gross receipts of all goods and services production groups in the country. But of those groups, like forestry, commerce, professional service, and part of communications, whose gross receipts are unobtainable, only net output is included.

[2] Valued at market price instead of at producers' price, like other production groups.

[3] Including a common deduction item C\$173 millions.

output, the total net output is only 8·5% of the national net output. The greater proportion of the gross output is partly because the coverage is not identical in the two cases, but mainly owing to the high proportion of raw materials used in manufacturing industry. The net output is, indeed, pitifully small, and more so is the factory net output, which amounts to only 1·9% of the national net output. As opposed to this, handicraft is astoundingly preponderant in manufacturing production. Of the total manufacturing net output, factory is only 22%, while handicraft is 78%. These facts show clearly that China's industrialization is still in an infant stage, and that her factory production is of negligible importance in her national economy. This infancy and negligibleness are made more striking by comparing China's factory production with that of the other three countries. From Table II we can see that the net output in the United States is 162 times greater

TABLE II

The Scale of Factory Production in China, Germany, the United Kingdom and the United States

(In index numbers)

	China.	Germany (1936).	U.K (1935).	U.S. (1935).
Gross output . .	100 (1933)	2,538	2,425	7,848
	100 (1936)	1,989	1,904	6,162
Net output . .	100 (1933)	6,433	5,051	16,179
	100 (1936)	5,018	3,940	12,620

Note.—The rate of conversion used was C$1 = £0·0618 for 1933, and C$1 = £0·0599 for 1936.

than that in China in 1933, and 126 times greater in 1936; in Germany, sixty-four times greater in 1933, and fifty times greater in 1936; in Britain, fifty times greater in 1933, and thirty-nine times greater in 1936. That means that were China equipped with the same scale of manufacturing investment and with the same degree of efficiency as the United States, her factory net output could be raised from 126 to 162 times above her pre-war level. Theoretically, as China's population is far greater than that of the United States, her gainfully occupied population in manufacturing industry could be raised even higher than that in the United States, and, therefore, her industrial net output could also be raised higher.

3. *The Scale of Manufacturing Employment*

The conclusion reached in the preceding paragraph can be elaborated more fully by studying the scale of manufacturing employment. Table III shows that persons employed in all manufacturing production are only about 2·6% of the total population, persons employed in factories only 0·25%, and persons engaged in handicraft 2·3%. By comparing this scale (0·25%) with 9·2% in Germany, 11·3% in Britain, and 6·7% in the United States, we are confronted with another sharp contrast. Even if we bring our factory employment up to 1936, the contrast does not lessen much. We can see from Table IV that the percentage in Germany is thirty-one times greater, in the United Kingdom thirty-four times greater and in the United States twenty-two times greater, than that in China.

TABLE III

Employment in Manufacturing Production (1933)

	Persons (in thousands).	Percentages
Population	429,494·1 [1]	100 00
Persons employed in manufacturing production :		
Factory	1,076 4	0·25
Handicraft	10,000 0	2·33
Total	11,076·4	2·58
Persons employed in factory production :		
Operatives	763·0	0·18
Foremen	45·8	0·01
Salaried employees	115·0	0·03
Other employees	152 6	0·04

[1] This figure is related to 1932–33. See *Chinese Year Book*, 1935–36, chapter on population.

TABLE IV

The Scale of Employment in Factory Production in China, Germany, the United Kingdom and the United States

	China (1936).	Germany (1936).	U.K. (1935).	U.S. (1935).
Persons employed in factory as percentage of total population	0·3	9·2	11·3	6·7
Percentages in index numbers	100	3,066	3,433	2,233

China would certainly be better off if persons engaged in handicraft could shift to factory work. It is easy to make out from Table III that persons employed in factory work are only

about 10% of the total employment in manufacturing production, while their net output is as great as 22%, as we have stated in the preceding section. Were China's percentage of persons employed in factories in the total population as great as that in the United States (not to say as great as that in the United Kingdom) her employment in factory would be 3·4 times greater than that in the United States. And were her scale of production in line with that in the United States, her net output could be raised as much as more than 400 times above her pre-war level.

The persons employed include operatives, foremen, salaried employees, and other employees. Owing to the lack of data and to the nature of the industry itself, we could not classify the

TABLE V

Composition of Labour Force in Factory Industry in China, Germany, the United Kingdom and the United States

	China (1933).	Germany (1936).	U.K. (1935).	U.S. (1935)
Salaried employees per 100 operatives	15·1	17·2	15·0	14·7
Percentages in index numbers .	100	114	99	97

persons employed in handicraft into subgroups. But in factory production we have seen, from Table III, that operatives are of a negligible quantity. To carry the comparison through, Table V is made to show the relation of administrative, clerical and technical staff to operatives employed in factories. Quite unexpectedly, this time the relation turns out fairly similar in the four countries. In China it is only slightly higher than in the United Kingdom and the United States, but lower than in Germany.

4. *The Structure of Manufacturing Production*

The relative importance of the different branches of manufacturing in total output and employment can be seen in Table VI and Table VII. There are several points here worth our notice. To begin with, of all fourteen groups, only four groups, Engineering, Metal products, Electrical apparatus and Chemicals, have predominant factory output, while the output of all other ten groups is overwhelmingly by handicraft. Particularly in important groups like Textiles, Clothing, Food, Drink and Tobacco, and Timber, factory output is only about 37%, 15%, 9% and 2% of the total, respectively. This means that in almost all the consumption-goods industries handicraft is pre-

TABLE VI

The Structure of Manufacturing Production (1933)

Industrial groups.	Net output (in C$ millions).			Factory operatives (in thousands).	Number of factories.
	Factory.	Handicraft.	Total.		
Timber	1	46	47	3	27
Engineering	22	4	26	38	236
Metal products	13	7	20	7	82
Electrical apparatus	6	1	7	6	63
Ships and vehicles	14	41	55	41	56
Clay and stone	20	54	74	24	120
Chemicals	28	22	50	49	184
Textiles	154	258	412	459	859
Clothing	15	82	97	17	165
Leather and rubber	12	37	49	16	99
Food, drink and tobacco	67	702	769	72	547
Paper and printing	21	56	77	23	269
Scientific instruments	3	3	6	4	74
Miscellaneous	2	26	28	4	43
Total	378	1,339	1,717	763	2,824

dominant. Secondly, the preponderance of consumption-goods industries is only too striking. The combined output of Textiles, Clothing and Food, Drink and Tobacco alone is about three-fourths of the total output, while in the other three countries it ranges only from 29% to 37%. It follows naturally that capital goods industries in China have played a very minor rôle in manufacturing production. The combined output of Metal and Metal products, Engineering, Shipbuilding and Vehicles is only about 6·2% of the total output, while in the other three countries it amounts to from 32·6% to 40·3%. This may enable us to see to what extent China has been accumulating her capital. Thirdly, factory operatives are concentrated in textiles industry. In no other industry do the operatives employed amount to as much as 10% of the total of factory employment, and most are below 5%; textiles, on the other hand, represents 60% of the whole. This is partly due to the high percentage of textile output in the total, and also to the fact that labour-saving processes have not yet been developed so intensively in textiles as in other industries. The figures in Table VII reveal the same features in the other three countries, but not, of course, to the same degree. Finally, in the total number of factories, Textiles is also leading, amounting to 859 units; the next is Food, Drink and Tobacco, 547; the third is Paper and Printing, 269. But, so far as the size of firm with respect to operatives employed is concerned, Textiles ranks only second, amounting to 534 operatives per unit; Ships and Vehicles comes first, 734 per

TABLE VII

The Structure of Manufacturing Production in China, Germany, the United Kingdom and the United States

(Percentages)

Industrial groups.	Net output.						Employment.			
	China (1933).			Germany (1936).	U.K. (1935).	U.S. (1935).	China [1] (1933).	Germany (1936).	U.K. (1935).	U.S. (1935).
	Factory.	Handi-craft.	Total.							
Metal and metal products	7·9	0·5	2·1	18·9	12·4	14·3	3·8	17·9	13·0	15·2
Engineering, shipbuilding and vehicles	6·6	3·5	4·1	21·4	21·0	18·3	8 3	19·4	21·4	16·1
Chemicals	7·4	1·6	2·9	9·9	7·4	9·8	6·4	5·0	3·8	5·2
Textiles	40·7	19·3	24·0	11·0	13·3	8·0	60·2	15·2	20·5	15·1
Clothing	4·0	6·1	5·7	4·0	6·9	7·7	2·2	5·6	10·4	11·6
Leather and rubber	3·2	2·8	2·9	2·0	2·1	3·1	2·1	2·4	2·0	3·1
Clay and stone	5·3	4·0	4·3	6·7	4·5	3·2	3·2	9·5	4·8	3·2
Timber	0·3	3·4	2·7	4·0	3·2	4·7	0·4	6·1	3·8	8·0
Paper and printing	5·6	4·2	4·5	5·7	9·5	11·8	3·0	6·4	7·9	7·5
Food, drink and tobacco	17·7	52·4	44·8	14·0	17·0	16·5	9·4	10·2	10·1	12·3
Miscellaneous	1·3	2·2	2·0	2·4	2·5	2·6	1·0	2·3	2·4	2·8
Total	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0

[1] Factory operatives only.

unit; Chemicals third, 266 per unit. On an average, operatives employed in Chinese factories are about 270 per unit.

5. *The Productivity of Factory Labour*

All the facts pointed out above make the low industrial efficiency but a logical result. In Table VIII the comparison

TABLE VIII

The Value of Net Output per Head of Factory Operatives in China, Germany, the United Kingdom and the United States

	China (1936).	Germany (1936).	U.K. (1935).	U.S. (1935).
£	31	294	264	595
Index numbers . . .	100	948	852	1,929

made between China and the other three countries is based on the value of output produced per factory operative. The index numbers show that a Chinese worker can turn out only one-ninth of the product of a German or an English worker, and one-nineteenth that of an American. In other words, a Chinese will require nineteen days to produce the output produced by an American worker in one day. The difference is appalling. Yet this is not the whole picture. When the comparison is made between the output produced by an American worker and a Chinese handicraft worker, the result is almost unbelievable. From the proportion of net output produced and employment in factory and handicraft, we know that the output produced per factory worker is 2·6 times greater than per handicraft worker. Thus, one day's work of an American worker will be equivalent to fifty days' work of a Chinese handicraft worker. This low productivity is, of course, only partly due to the inefficiency of labour, and partly, perhaps mainly, due to the meagreness of capital investment. Where labour-saving devices have not been extensively installed the output produced per worker is necessarily low. This fact has also been shown in the proportion of net output in gross output. In Germany, Britain and the United States the proportion is about 40–50%, while in China it amounts only to 20%. The simpler the manufacturing processes, the less the share of net output in gross output will be.

6. *Distribution of Income in Factory Production*

To conclude this paper, let us discuss briefly the distributive shares in factory production by ciphering the ratio of wages in

net output. The result obtained can also be compared with the figures in Mr. Rostas's article. It is clearly shown in Table IX that the ratio is much higher in China than in all the other three countries. This is quite natural, and in accordance with the above analysis. The smaller the scale of capital investment, the greater will be the distributive share to labour. But the greater distributive share to labour does not mean higher payment to labour; on the contrary, it means greater input of labour, and, therefore lower payment to labour. From Table X in Mr. Rostas's article

TABLE IX

Share of Wages in Factory Net Output in China, Germany, the United Kingdom and the United States

	China (1933).	Germany (1936).	U.K. (1935).	U.S. (1935).
Percentages	65 1	32·0	44·3	39·4
Percentages in index numbers .	100 0	49·2	68·0	60·5

we can also see that the long-term changes of the share of wages show a decline in both Britain and Germany from 1924 to 1938. If China's industrialisation can be speeded up, the share of wages in output will naturally decrease, while wage rates will increase.

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PROFESSOR HAYEK ON INDIVIDUALISM

PROFESSOR HAYEK'S *Road to Serfdom* had a combination of qualities—sincerity, passion, fine English writing, acute and subtle logic, wisdom, and appositeness—which may well cause it to take its place as a classic. It will probably long be read with both pleasure and advantage. In a work of this character, which may be called a polemic, or, perhaps, with greater precision, a tract, some over-emphasis is in place; it adds a spice, and at the same time reveals the sources of the author's inspired mood, thereby helping the understanding of what he has to say, and it can easily be allowed for by the reader of sense when he makes his final assessment. There are some, it is true, including some who are sympathetic to Professor Hayek's main position, who felt that he took just a little too much of the licence properly accorded to inspiration, thereby impairing the cogency of the tract. This excess, if indeed it was there, consisted not so much in the ruthlessness with which he pushed his arguments to their logical conclusion—a procedure appropriate in the context—as in a certain tendency to dogmatism and exclusiveness which cannot be validly maintained in the field of political studies. The subject-matter is too complex, elusive and mysterious.

In the present lecture, which may be regarded as a pendant to the larger work, the inspiration flags and the dogmatism is more prominent. As there is a clear danger that Professor Hayek may let this tendency to dogmatism assume the mastery in his intellectual make-up—as illustrious writers on politics have done before him—and as this might obscure his other lights, which are capable of being of such great service in these harassed times, it may be well to examine the work before us with exceptionally critical scrutiny.

Dogmatism is implicit in the title itself—*Individualism : True and False*. This seems to serve notice of a heresy hunt. One would have thought that in these days of sadly waning individualism, one should be reluctant to cast out of the canon interesting and influential "individualist" thinkers, even although their work contained certain impurities. Anyhow, if there is to be a purge, let us be quite sure that our criterion is correct.

First it is necessary to examine, much more strictly than Professor Hayek seems to have done, the meaning of the words

"true" and "false" in this context. As an opening move I suggest six possible meanings, without claiming exhaustiveness.

1. It may be held that in the history of thought certain writers have so clearly established the title to be the expounders of individualism that the doctrines of other lesser writers may be tested by their agreement or disagreement with the ideas of these master minds. (Historical criterion.)

2. Instead of certain writers, the word itself may be made the criterion. Presumably individualism entails stressing the importance of the individual. Doctrines may be tested according as whether they do or do not genuinely do this. (Etymological criterion.)

3. Individualism may be regarded as comprising a number of propositions about the working of society. Propositions may be true or false. True individualism could be said to consist of all those "individualist" propositions which are true and false individualism of those which are false. (Scientific criterion.)

4. Individualism may be regarded as comprising not a set of sociological laws, but a statement of aims or ends or values. Individualism might be deemed true, if the aims or values set out are things which mankind does in fact value, and conversely. (Value criterion: ends.)

5. Alternatively individualism may be regarded as prescribing not ultimate values, but the means to achieving certain more fundamental aims commonly accepted by mankind. True individualism would then prescribe a set of maxims which do in fact tend to the achievement of those aims, while the maxims of false individualism would be those which have plausibly been taken to do so, but do not in fact do so. (Value criterion: means.)

6. True individualism might be taken to state the values men ought to aim at whether they do so or not and false individualism values which men ought not to aim at. (Moral criterion.)

Professor Hayek certainly does not make plain which of these or which combination of these criteria he has in mind. His citation of certain authors suggests the first. By this he cannot be deemed to have established his case. He attaches himself firmly to Burke, Adam Smith, de Tocqueville and Acton. He stretches out tentacles towards Locke and Hume. But Locke, his claim on whom he makes no attempt to substantiate, must definitely be denied him, for reasons which will be explained. Among the false we have by his admission the Encyclopædists,

much of the work of the Benthamites and of J. S. Mill and Herbert Spencer. When we examine the doctrine expounded by Professor Hayek, we have to class Locke and Bentham among the false. Clearly then in this appeal to authority, as manifested in the history of political thought, the verdict is indecisive. It may be noticed in passing that Professor Hayek's four favourites, while very sagacious men, were not, except Adam Smith, moral philosophers who dealt with first principles. Professor Hayek hints at the second criterion when he argues that individualism ought to mean something that is the opposite of socialism. When he says emphatically that individualism is " a *theory* of society, an attempt to understand the forces which determine the social life of man, and only in the second instance a set of political maxims derived from this view of society " he seems to point to the third criterion and away from those numbered 4 to 6. None the less the general drift of his argument suggests that he has the fifth also in mind.

It seems difficult to dispense with the first and second criteria altogether. If we concentrate attention on the third (or on any of the last four, for that matter) individualism seems to become identical with sociology. Perhaps Professor Hayek would say that it is. Yet it seems more natural to suppose that what is true or wise in individualism constitutes some important part or aspect of sociology, not the whole. And if we ask which part, we are driven back to the first or second criterion. But when one considers his argument on these, one cannot escape the notion that Professor Hayek is not seeking to apply them strictly, but that he has quite a different approach, that he thinks that there is some absolute doctrine laid up, so to speak, in Heaven, a Platonic idea of individualism, which mundane writers may or may not have succeeded in grasping. This is a common error of the man in the street, when he discusses Liberalism, Socialism, etc. For him there is some absolute doctrine, a true Liberalism, for instance, which is not on the one hand merely truth itself nor on the other a rescript or conflation of what Liberals have expounded. This of course opens the door for the prophet, for the man who claims to have seen the invisible Text. And this is the danger. I am reminded of a book I once read by an American lady, the whole of which was devoted to proving, without reference either to the artistic intention of Shakespeare or any alleged facts of history, that Shakespeare had altogether failed to do justice to the moral character of Hamlet's mother.

The main characteristic ascribed by Professor Hayek to true

individualism is respect for "spontaneous social products" which promote a good social end but were not deliberately devised for the purpose they serve. One detects at once the economist's reference to Adam Smith. But Professor Hayek wishes to broaden the basis of respect for property and markets, by assimilating the economic doctrine of harmony to the more far-reaching conceptions of Burke on the utility of established institutions and quotes a notable tribute by Adam Smith to Burke.[1] He contrasts this doctrine with the rationalist approach which assumes that Reason can provide blue-prints which will solve all human problems; the reference to our modern planners is obvious. Now much of what he says in this passage concerning the imperfect rationality of human beings and the power of social processes to achieve more than the highest individual human reason could devise is wise and true. But it is not at all clear what this has to do with the doctrine of individualism. What Professor Hayek seems to be doing here is roughing in a philosophical defence not of individualism, but of the best type of conservatism. The antithesis to the doctrine he is expounding in these passages is not socialism or collectivism, but radicalism, which is prepared to tear down established institutions and build quite afresh in the light of reason or first principles. Such a radical was Bentham, who wished to test all establishments by the greatest happiness principle. That surely is a characteristically rationalist procedure. It is not merely the Benthamite school but Bentham himself who stands condemned of rationalism and thereby of false individualism. But is not this a little absurd? We cannot really have a definition of individualism that excludes Bentham. Furthermore, Locke was a thoroughgoing rationalist in this sense. So he too would have to be excluded.

In the eye of truth there is much to be said both for conservatism, a disposition to ascribe hidden values to customs and institutions that have grown up, and for radicalism, the urge to sweep away all the old rubbish. The social value of each disposition depends on time and circumstance. No formula can exempt us from the difficult intellectual task of deciding which way we should incline from time to time, seeking the golden mean, recognising both the weakness and fallibility of human reason, and also its amazing power. This lecture adds point to Mr. Durbin's spirited plea for reason in his review of Professor

[1] It should be noticed, however, that Adam Smith severely condemns another of Professor Hayek's favourites—de Mandeville (*Moral Sentiments*, Pt. 6, Sect. 2, ch. 4).

Hayek's previous volume.[1] But what has all this to do with individualism? In many societies, perhaps most, time-honoured institutions have been exceedingly cramping to the individual. The radicals or rationalists of to-day may incline to centralist planning, but at other times they have sought to release the individual from despotic power or unduly cramping laws or customs.

Surely the American constitution may be regarded as an individualist blue-print, and therefore, according to Professor Hayek, as a type of "false" individualism. It is true that British people have for many years poured some scorn on its rigidity, preferring their own more flexible system, which has evolved or been patched from time to time in a way that should commend it to Professor Hayek. Yet it is possible that a man of to-day, who really valued individual liberty, would feel more secure of his freedom if living in the United States under the ægis of that piece of rationalist planning than he would under our own regime.

The attempt to link Smithian economics to Burke's conservatism is not a happy one. It is true that they are both inimical to centralist planning and rely on the unfettered working of existing institutions. But whereas Burke was anxious to make us look to the hidden virtue in established things, Smith's system was fully rationalist. Professor Hayek is right in urging that this does not imply that each individual is fully rational; but the *raison d'être* of the system as a whole and its parts can be demonstrated by argument. This is quite in contrast to the emotional foundations of loyalty on which Burke builds.

This confusion between two separate issues shows itself in a number of ways, for instance in the treatment of Rousseau, who is lumped in with the Encyclopædists, despite the fact he was in sharp conflict with them on most points. Professor Hayek treats this great man in altogether too cavalier a way; he is assigned the rôle of a power for evil. Rousseau has two very different, and indeed in some sense opposed, strains, neither of which Burke "commonly (and rightly) represented as the main opponent of the so-called 'individualism' of Rousseau" (p. 7), was capable of understanding.

In his strict political theory Rousseau should probably be classed as a collectivist. He stated the case for the general will. The power of incisive logic shown in the *Contrat Social* places Rousseau in the ranks of political philosophers concerned with

[1] *The Economic Journal*, December, 1945.

first principles—Hobbes, Locke, Hume. When Rousseau refutes the doctrine of "might is right" in a few limpid and immortal sentences he is as far beyond the range of Burke in theoretical philosophy as Burke is beyond Rousseau's range in practical wisdom. Burke had not the power of precise logic which would have enabled him to meet Rousseau at all on the high philosophical plane. As a political theorist Rousseau should not be classed as an individualist, true or false. Presumably the reason why Professor Hayek classes him as the latter is that he was a radical, prepared to sweep away the old rubbish.

In his attitude to other matters, in his temperament, in his emotions, Rousseau was no doubt a strong individualist. As such he is regarded as father of the Romantic Movement—and was a man of great influence and genius. And about that aspect too Burke, albeit for totally different reasons, was quite unqualified to pass comment. As a romantic Rousseau probes deep into the human heart, lifts the veil, turns our attention back to elemental and universal passions, stirs, moves, shocks. That was not at all Burke's milieu. For all his poetic imagination, Burke was essentially a man of business, state papers, bustle and conventionality. It is not to belittle Burke's greatness in his own field to say that it showed a considerable narrowness that he could see in Rousseau only a perverted egoist. Perhaps that was typically English; for, if we give to Ireland Burke's oratory, we should probably accede to Burke's own claim to be of English stock, when we seek the national source of his political wisdom—and his philistinism as regards the deeper emotions. Not all Englishmen are like that, however. We have our Shelley. Before closing his list of individualists, Professor Hayek would do well to examine the case of Shelley carefully. He was an individualist and a rationalist, prepared to pull down the pillars, and yet an object of great veneration in prim Victorian England.[1]

This brings me to the later pages of this lecture. Professor Hayek has so much of value to contribute to the thought of the country of his adoption, that I hesitate to discourage him by joining those who would warn him about the difficulties of summarizing the typically English point of view. He thinks that the Germans are "rationalist" and thereby "falsely individualist" in insisting on the development of "original" personalities. He contrasts this with the "voluntary conformity" of the English Public School system. There is much confusion in this. In

[1] I may be allowed to bring Shelley into the argument, since Professor Hayek cites Goethe.

many respects the English are fundamentally non-conformist, and this country has been singularly rich in "original" personalities. One has only to examine the literature from Shakespeare to Dickens. It is a well-known dictum of literary criticism that our imaginative writers show their best genius in the portrayal of secondary characters, who are commonly eccentric, while their heroes and heroines are a little lacking in depth. The most notable exception to this dictum, Hamlet, illustrates the point.

The question of the essential characteristics of the English Public School is notoriously a treacherous one. The English themselves have not been able completely to unravel it. There is a typically English concept, much older and of far greater importance than that of old Public School boy, perhaps of waning influence now, but historically of great moment, the gentleman. It is well known that the criterion for distinguishing a gentleman is something other than income or even heredity. For centuries English gentlemen have been famous for their frequent eccentricity. Enthusiasts might claim that no class in recorded history has been so rich per head in "original personalities." The conformist tradition of Public Schools, referred to by Professor Hayek, is comparatively modern and its cause is readily explainable. To be a gentleman is (or used to be) an ideal near the heart of many Englishmen. Public Schools came to establish the claim that they had a secret patent for manufacturing gentlemen artificially. Parents of means naturally sought this advantage for their sons. Conformism has no connexion with the concept of gentleman as such but was necessary to the process of artificial manufacture. In the broad picture of English social life through the centuries it is a phenomenon of minor importance. None the less some hold that the increasing predominance of this rather more uniform Public School product in recent decades has weakened our national character. It is possible also that the amount of conformism often ascribed to these schools is exaggerated. At my own school, an ancient one, the most influential masters were certainly very eccentric characters, and their influence to some extent lay precisely in that. They were odd; but it was not thought in the least odd that they should be so; on the contrary, their oddness was accepted and admired as being essentially in the British tradition. There is no need for Professor Hayek to look beyond British experience for the stress that J. S. Mill lays in his *Liberty* on the value of variety in individual self-expression. This is something deeply rooted in British individualism. "Voluntary" conformity is more charac-

teristic of American Main Street; and there, according to report, it is not so much superior to legal restraint, in the point of oppressiveness, as Professor Hayek suggests.

It is of course quite true that there is something very un-English in the quest for self-expression that one finds in Werther, Faust and Wilhelm Meister. But what is un-English there is not the originality of the protagonists, but their self-conscious quest for it. It is the craving for something that they feel themselves to lack. When Faust is confronted with Euphorion he perceives an inborn freedom and natural waywardness of spirit that are quite beyond his range. I may remind Professor Hayek that Euphorion was an Englishman.

This lecture contains much that is wise, much that is well said and much that is worthy of Professor Hayek at his best. I have concentrated my notice on his heresy hunt. The doctrine of individualism needs nourishment from many sources and will flourish only by an interplay of opinion as free and varied as the mode of life which it seeks to secure in practical affairs. If any one, even someone so distinguished as Professor Hayek, ever succeeds in establishing himself as its S. Athanasius, that will be the death of it.

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REVIEWS.

The Socialist Tradition, Moses to Lenin. By Alexander Gray. (London: Longmans, Green & Co., 1946. Pp. x + 523. 21*s*.)

This is an entertaining book. Professor Gray writes with gusto and his humour bubbles up on every page. The humour is, indeed, at times rather of the classroom variety; but at other times, particularly when his sympathy is engaged, it is of an altogether higher order. The chapter on Fourier is a gem.

It is also a scholarly book. Professor Gray is well versed in the original authorities; quotes them judiciously without running into excess; and is careful throughout to give his references—a praiseworthy practice which might pass without comment were it not so often neglected in these hurried, not to say slovenly, days. If there is any complaint to be made in this connection it is that the reader would be helped considerably if the date of first publication were given not only occasionally, but wherever possible—at any rate for the more important of the works brought under notice. Secondary authorities are (rightly) but little relied upon. To the present reviewer, however, it is pleasant to find a favourite author of his youth, Émile Faguet, being given his due.

As an indication of the ground covered and the method used, the title is a shade misleading. " Leading writers in the socialist tradition " would have conveyed a better idea of the contents. For, as the prologue explains, " the present volume " " does not aim at being a history of socialist thought," its purpose is " to present the outstanding figures in the development of socialist thought, with some estimate of the significance of their several contributions." It is, in the words of the wrapper, " a collection of studies "—not a record or analysis of a process of development: a series of stills, not a motion-picture.

This manner of treatment has its drawbacks. Individual thinkers tend to be too much isolated both from each other and from the contemporary movement of thought and events. As a result, not only is the sense of the gradual emergence and evolution of a particular body of ideas or attitude of mind (under pressure from social conditions and the general march of knowledge and speculation) apt to be lost, but the character of the individual writers' contributions is liable to be, in some measure, obscured.

Professor Gray's account of Marx, for instance, does not bring out as clearly as it might how largely Marx's work consisted in drawing together threads which ran through the writings of his contemporaries and immediate predecessors, an attempt, conscious or unconscious, successful or unsuccessful, to fuse into a coherent whole elements gathered from a variety of sources. Again, the eccentricities of such writers as St. Simon and Fourier, which stand out from these pages in all their stark crudity, are softened when we remember that they belonged to what was, as readers of Peacock's novels are aware, an age of extravagance. Professor Gray does indeed pay tribute to St. Simon's flashes of penetration, and by no means ignores his influence and his anticipations of later ideas; but more attention to the historical setting might have led him to recognise more fully than he does that the contribution of this *fou très intelligent* was a truly remarkable reflection of his time and seminal in a quite exceptional degree.

Perhaps, too, it is partly because of the method he has chosen that Professor Gray fails to emphasise the extent to which socialism is, in essence, the antithesis of capitalism—or, if less Hegelian language be preferred, a reaction against it. He notes that it is not till we reach the late eighteenth or early nineteenth century that we can begin to look for the fathers of socialism. But he does not proceed to the obvious step of connecting the emergence of socialism with social and economic developments; nor does he accord the central position which it surely deserves in any historical treatment of socialist thought to the notion of "exploitation"—the use of private property in the means of production to oblige the mass of the people to work for the owners' gain. It is the urge to escape from the injustices or subordination associated with "exploitation" which, more than anything else, gives socialist (and anarchist) doctrine what unity it possesses; goes far to explain its seeming vacillations and inconsistencies (as, for example, in the case of the unduly despised Proudhon); and provides the link between such dissimilar utterances as, say, the explosive rhetoric of Babœuf and the Fabian Basis. Professor Gray's "estimate" of the "significance" of his authors' "several contributions" would have gained rather than lost in interest and depth if he had looked at them more as manifestations of a particular phase in history and less as attempts to arrive at the eternal verities.

But if his manner of treatment has its defects, it has also a sovereign merit. It never allows us to forget that books are written by men and women, not by tendencies or environments or

intellectual climates. Professor Gray is always conscious of the human personality behind the printed page. This lends vividness to his book, and makes it a wholesome corrective to a misleading and somewhat dreary trend in much of the work which is now being done on the history of thought.

Judged simply as a collection of studies, the book has perhaps too much the character of a Fools' Gallery. As one reads, the impression grows that Professor Gray is not taking his subject seriously; almost, indeed, though this would be less than fair, that he regards the whole socialist and anarchist tradition as a huge joke. Wit and humour are all to the good : but one can be serious without being solemn. It is proper in a historian of ideas to expose foibles, extravagances, exaggerations, fallacies and contradictions. But he also has another duty. To enquire whether, when all these are swept away, there does not remain a substratum of significant truth in the doctrines he presents and analyses. Professor Gray too often neglects to do this. No one, for example, who is not of the Communist faith can nowadays swallow the materialist conception of history undiluted. But has it not contributed something of value to our understanding of the growth of society? And, over-simplified, over-stated, confused, mischievous even, though the doctrine of the class-war may be in many ways, can it be dismissed as a mere "fatuity"? Is there not a real or supposed cleavage of interest in the matter of property-ownership and the control of industry which is not without significance in the life of our time? As we watch Professor Gray poking fun at one of his sitters after another a doubt obtrudes whether recent events do not suggest that after all history is, up to a point at least, on the side of the fools : which in turn suggests the question whether there was not more of wisdom mixed with their folly than Professor Gray is disposed to admit.

But when all is said, and however much one may differ from his estimates of the doctrines he discusses, Professor Gray has given us a lively, learned and stimulating introduction to the leading figures in the socialist tradition, and one which is well calculated to induce the beginner to make their acquaintance at first hand. He deserves our thanks.

Two detailed points of fact invite a query. First, did not the Marx family embrace Christianity in 1824, when Karl was six years old, not, as is implied on p. 297, before he was born? Secondly, has Professor Gray the support of modern criticism for his suggestion that St. Luke "edited" and "blue-pencilled" the

Sermon on the Mount to make it conform to his "left-wing" views, and that St. Matthew keeps nearer to the original utterance? On a matter of this kind, a Scot must be presumed to have the advantage over a Sassenach. But it would be interesting to know on what evidence or authority Professor Gray is relying here.

G. F. SHOVE

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A Page of British Folly. By R. F. HARROD. (London: Macmillan, 1946. Pp. 60. 1*s.* 6*d.*)

THE folly is the grudging spirit which resents as onerous or detrimental to British interests the conditions with which the American Loan has been accompanied. Mr. Harrod's pamphlet was intended to be the first chapter in a book on international economic co-operation. But it seemed to him so important that the point of view therein set out should be presented to the public without delay that he decided to let it appear as a separate brochure.

The conditions with which the loan is associated are the outcome of Article 7 of the Mutual Aid Agreement of February 23, 1942. That article, Mr. Harrod writes (p. 4), "contained an economic programme which looked much more British than American"; so much so that it might have been supposed to have been "foisted on to the Americans by a triumph of British legerdemain. It certainly represented a wide departure from the traditional American isolationism, and should have been loudly acclaimed and warmly welcomed by every one here as offering a fairer prospect for world prosperity, harmony and peace than we had hitherto dared to hope for."

The International Monetary Fund of Bretton Woods is the one important case where the aspirations of Article 7 have been reduced to a detailed plan (p. 17). Mr. Harrod regards the Keynes plan for a Clearing Union, which preceded it, as incomplete, because it contained no express provision for the case of a scarce currency. The omission, he thinks, was intentional, because "such sanctions would necessarily be rather acutely unpleasant to any nation, and America is notoriously one, that is cast for the rôle of creditor nation in the coming period" (p. 23). It would have been "intolerably maladroit" to propose them. Yet the Americans themselves spontaneously included sanctions against a scarce currency in their counter-proposals, and the same feature has been embodied in the Bretton Woods plan.

"This was indeed a most magnificent gesture by the United States," showing "consummate disinterestedness."

Is this version correct? Is it not rather the case that the Keynes plan was unacceptable to the Americans because it would have compelled a creditor country to supply its own currency in exchange for bancor to an amount limited only by the quotas to which the overdrafts of the debtor countries were to be subject? The American plan imposed a narrower limit. The debtor countries can only take out of the International Monetary Fund what is there; the contribution of the creditor country to the Fund is limited, and, if it is exhausted, the debtor countries must be content to buy one another's currencies. The scarce currency provision deals with this contingency by allowing the debtor countries to refrain from buying more from the creditor country than they can pay for. So much logic compelled.

American opinion, Mr. Harrod says, favours "fixed and unalterable" rates of exchange; British opinion favours rates "subject to variation from time to time" (p. 37). "I am very partial," he owns, "to flexible exchanges, and believe the American view to be wrong" (p. 38).

The Bretton Woods plan, while retaining gold as an international medium, concedes flexibility of rates in case of a fundamental disequilibrium. The Americans holding "strong, well-defined and well-reasoned views . . . have shown themselves willing to scrap these views and to adopt the British view."

Mr. Harrod here assumes that the issue was one of national interests. But that is not so. The divergence of view is not as to national interests but as to what will be beneficial to the world. A subjection of a nation's power to alter the par-value of its money unit to international control is an innovation, and a very dangerous one. If the gold standard is discredited, that is because nations have in the past been unduly reluctant to alter parities; but they have always been perfectly free to do so. Under the Bretton Woods plan they will not be free. The conditions to which the consent of the Fund must conform are formulated, it is true, in terms apparently reasonable. But can the wisdom of those who have to interpret and apply them be unequivocally relied on? Misgivings on the subject are not folly.

When Mr. Harrod turns to the question of discriminatory practices in international trade, his case is stronger. One source of opposition to the American proposals is the fear that Imperial Preference is threatened. "There are old-fashioned Conserva-

tives who live in the remote past and advocate Joseph Chamberlain" (p. 36). He quotes the assurance given by President Roosevelt to Mr. Churchill that the abolition of Imperial Preference is not called for, and he infers that what is intended is that Imperial Preference must not be increased and will have to be reduced "in some reasonable proportion to a general reduction of tariff barriers" (p. 10). It will not be honourably open to Great Britain to reject an agreement otherwise satisfactory pursuant to Article 7 merely because it involves a severe scaling down of Imperial Preference (p. 55).

But the discriminatory practices against which Article 7 is really directed "offer a menace of measureless potency to our export trade" (p. 10).

There are advocates of compartmentalising trade, who would rely on "(i) the power that we gain from being such a large market for many countries and (ii) the attractiveness for some of being in the so-called sterling area" (p. 48). But Mr. Harrod shows that "this leverage is a wasting asset" (p. 49). "We can secure a sound and lasting trade position in one way and one way only, and that is by being able to offer wanted goods at acceptable prices" (p. 50). In the forthcoming trade negotiations "we should press for a system that is as open and truly international as possible" (pp. 54–5).

"We must not regard the difficulties we fear in getting sufficient export markets as the central problem round which all international plans must be made to revolve. In due course we shall have to work hard, like everyone else, to secure required markets. Meanwhile we have the Loan to see us through the awkward transitional period" (pp. 57–8).

R. G. HAWTREY

London.

Income: an Introduction to Economics. By A. C. PIGOU. (London: Macmillan, 1946. Pp. 118. 5*s*.)

SOME time ago, Professor Cannan entered a plea for a "simpler economics." He meant that there were complexities which should not be investigated by methods beyond easy comprehension. The expression in the simplest language of the results of far-reaching analysis is a different thing; it is that kind of simplicity which this book brings back from the far country in which its author has travelled, and the reader feels that he has been there.

There are two aspects of the study of Income; the historical,

meaning its growth since 1800, and the methodological, as a synthesis or conspectus of the whole economic problem. The former is now seriously affected by Bowley's conclusion that we cannot rely on much exactitude before 1880, and on still less before 1860; and also by the antithesis of the supposed four-fold average increase in real income 1800–1914, and the most recent facts concerning consumption and nutrition. It is difficult to imagine the country as having been four times as badly off as would correspond with the facts now supplied by Orr and the F.A.O. As a method for bringing the economic framework into one focus, income study is being tried out, and this has changed the emphasis of economic study since Professor Pigou and I trod the older path by which, perhaps, we saw more of the country.

I think that, in the study of the measure of income (Chap. 1), much is to be learned from the tax cases, especially in respect of the definition of what is net. Not enough use is made of this source. The Courts have had served up to them, and serve up to economists, the problem of what is "wholly, necessarily, and exclusively" a cost of making an income. This particularly applies to depreciation, or the cost of keeping capital intact, in respect of which the judgments have moved by their own dialectic into agreement with economic theory (after earlier disagreement), but with much illuminating detail. "Depletion of capital in connection with its use in industry" (p. 4) would not meet the legal requirement of *specific* use, since an asset might appreciate as a saleable thing, while having specific depreciation. The cost of living is not a maintenance cost, since depreciation must be the cost of a specific income, not of any income at all. Prof. Pigou's suggestion to define depreciation by insurable costs has not been taken in law.

As regards transfer income (Chap. 1), its contractual nature is what seems to make it income in law, since the law is fond of attention to regularity. A service rendered at one time may have a delayed settlement. A country which has waged only successful war may take a different view of the service from one which has lost a war. Transfer taxation is the most onerous of taxes, since it does not use up resources (which is what resources are for), and has therefore no productive offset to its restrictive effect as a tax. The nation does not "get back" part of the transfer by taxing it, any more than it gets back part of what it pays to the Civil Service. The whole transfer is fully effective as a tax on the whole community, including the rentiers.

The problem of fluctuations (Chap. 6) is reduced, so as almost to collapse, into a choice between what Fisher called "starters" of variations, and the simple tracing of the course of variation. There are several theories of starters, while many others are only tracings. The third way out was Cassel's piece of arithmetic, which did not distinguish fluctuation from casual variation. As regards the remedy by public works, we go back to Say, who clearly stated it. It was not possible for him or Adam Smith to mention those developments which we heard so much of in the public schemes of the Lloyd-George agitation to conquer unemployment, since railways, telephones, and electrification did not then exist; Say and Smith gave all the list they could then give. If we have been far behind in plans of public development, the special opportunity which such a lag offers should not be combined with a reflection on private enterprise because of its liability to depression; since it was bound to get jammed if public enterprise had not given due support. It is nearly a century since Mill said that *laissez faire* should be the "general rule"; the first Socialist government announces 20% of national industry, and 80% of private enterprise, as the proper balance; and 80% is a very good definition of a general rule.

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Studies in Economic Dynamics. By M. KALECKI. (London: Allen & Unwin. 1943. Pp. 92. 5*s.*)

IN this volume Mr. Kalecki presents five essays—three of them published for the first time—containing a new exposition of his ideas, which in broad outline will already be familiar to readers from his earlier writings. The essays deal with the determinants of national output, income and income distribution, with the interrelation between long- and short-term interest rates, with business-cycle theory, and with the trend around which economic activity fluctuates.

In his discussion of national income and its distribution, the author reaches surprising conclusions, which are shown to be implied in some of the most plausible assumptions of Keynesian economics. He shows capitalist income to be uniquely determined by capitalist consumption and investment; whereas aggregate output is seen to be a simple function of capitalist income and the average gross profit margin. The gross profit

margin in its turn, and with it the distribution of income between labour and capital, is shown to depend mainly on the average degree of monopoly in the economic system, and not on factors like marginal productivity or the rate of profit on capital. The argument implies that under perfect competition gross profits would be zero, and not only would capitalists' earnings be nil, but overhead costs could not be covered either. This paradoxical result, however, is more likely to shake the reader's confidence in the concept of perfect competition and the orthodox theory of pricing than in the author's argument and assumptions.

In the essay on interest rates the liquidity preference theory of the short-term rate of interest is illustrated by a statistical derivation of the demand curve for money, in the form of a regression of Treasury-bill rates on the velocity of circulation. The theory that long-term rates are determined by the expected average of short-term rates is also tested statistically: by a regression analysis of discount rates and the yield of consols, averaged over selected intervals of time. The presentation of the theory is elegant and the coefficients derived plausible; but the reviewer cannot help suspecting that the plausible results have a lot to do with the somewhat arbitrary choice of the averaging intervals and of the excluded "intervals between the intervals."

The most important among the essays is the one dealing with business-cycle theory. Dr. Kalecki's business-cycle theory, well known from his earlier publications, explains the business cycle in terms of the interaction of two main determinants of investment: the stimulating effect of higher activity and incomes, and the depressing effect of an increasing stock of capital equipment. In the present volume the author restates this theory in improved form. The main determinants of investment are broken down into their component factors, and the use of algebraic symbols enables the reader to keep track of the different factors and of the nature of their influence on investment and business activity. Also remedied here is a serious shortcoming of the earlier versions of the theory: the instability of the amplitude of the business cycle. While in many ways Dr. Kalecki's theory is the most convincing explanation of the business cycle, in its earlier form it showed the degree of damping (or anti-damping), and hence the amplitude of the cycle, to be a very sensitive function of the parameters of the system, which seems to be contradicted by experience. The first attempt to remedy this shortcoming of Dr. Kalecki's theory was made, I believe, by Mr. Kaldor, who has

shown that the amplitude of the business cycle is stabilised by the fact that the influence of incomes on investment and of investment on incomes (the multiplier effect) vary with the phases of the cycle—being weakest at the top of the boom and the bottom of the depression. Dr. Kalecki's argument in the volume under review is very similar, except that he neglects variations in the multiplier and pins his main argument on the entrepreneur being cycle-conscious, and hence more cautious in his investment decisions after a prolonged boom than at the beginning of it. The reviewer feels that the argument would have been rendered more convincing by a shift of emphasis and a more complete discussion of all the factors that tend to keep the amplitude of the cycle stable.

The last essay in the volume breaks new ground in being the first theoretical analysis of a dynamic long-run trend, its determinants, and its relationship to the pure business cycle. Capitalists' consumption, rentiers' savings, population growth, labour productivity and innovations are among the determinants of trend discussed. The author is very pessimistic about the investment stimulating effect of population growth, which he regards primarily as an increase in unemployment exerting its influence by depressing money wages, and thus lowering interest rates. Effective demand will not rise as a result of population growth, because the working classes are assumed to spend all they earn independently of the number of their children, while the capitalist class has presumably no share in the population increase. In his discussion of the effects of innovations on capital accumulation and employment, Dr. Kalecki argues that in addition to their stimulating effect, innovations also have a discouraging effect on investment. The latter seems to be due to technical progress giving rise to the expectation of a faster rate of obsolescence; but the depressing effect of this is shown to be weaker than the stimulating effect of innovations in a progressive economy. It is to be regretted that this interesting subject is treated in so summary a fashion.

In general, one may say that the book whets rather than assuages the reader's appetite. It contains many more ideas than can be adequately discussed within the compass of its ninety pages, but to the intelligent reader this should be a stimulus rather than a source of dissatisfaction.

TIBOR SCITOVSZKY

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The Theory of Economic Progress. By C. E. AYRES. (Chapel Hill : The University of North Carolina Press, 1944. Pp. viii + 317. $3.00.)

THIS is a most refreshing book. Clarence Ayres is probably the last of the pure Veblenians; indeed, I think he is to-day the only faithful one. Unlike so many of Veblen's disciples, he has not become wholly concerned with statistical and descriptive studies which, in spite of their supposed realism, are often completely lifeless. He has continued the radical and critical tradition of the master; and in this book he is still labouring to persuade his readers to adopt "a new way of thinking about economic problems." It is easy, in the present circumstances, when real economic problems of all kinds are almost overpowering, to be scathing about a book which is so patently written from the isolation of the study. But, as one who has come into contact with Ayres's students, I can testify to the immensely stimulating effect which his teaching and writing have on the best of the younger generation. At a time when textbooks on elementary principles are justly in disrepute, let this book be read and used widely as an antidote both to the sterilising effects of the teaching of traditional principles and to the confusion which results so often when teaching is confined to specific problems.

This book is divided into three parts, of which the first, and much the best, is a critical description of the classical tradition. The second contains an analysis of economic behaviour on the basis of Veblen's categories; and the third a positive attempt to construct new principles of value and welfare. The second section is a very good restatement of the principal tenets of Veblen, using fresher and more up-to-date illustrations. The third section, however, is somewhat disappointing, and, in particular, when Ayres attempts to translate these doctrines into specific analyses of economico-political problems, the result is somewhat thin.

The first part, in spite of its brilliance, contains much that is wrongheaded. To suggest that the classical obsession with price is due to a "trauma" which can only be understood by the use of psycho-analytical methods is sheer nonsense. This contrasts with such striking and significant formulations as the one on page 37, that the discovery that all prices were linked made it very tempting to assume that the resulting price system had some human, social and moral significance. The analogy of the social harmonies with the harmonies of nature, now outgrown by the

natural sciences, is an example of the really brilliant phrases so frequently found in this book.

In the third section the concept of capital is analysed. It is rightly described as the dominant institution and idea of our social order. Capitalism itself is regarded as "a theory of authorship," developed, so Ayres maintains, in order that we may be able to avert our eyes from the embarrassing spectacle presented by the great inequality of incomes. Business enterprise is looked upon as the supreme author of modern civilisation (p. 47), and from this view there flows an extremely acute analysis of the whole structure of ideas connected with "time preference," "abstinence," "saving."

In the same section there are some admirable comments upon the theory of the "round-about process" in which "the whole going concern of industrial society may be mistaken for the pecuniary advances of the capitalist" (p. 55). The style of this section is particularly reminiscent of Veblen at his best—it certainly is free from the prolixity of Veblen at his worst.

Finally, the theory of value inherent in any natural order philosophy is examined. There is not much, perhaps, here that is new; the general line is that common not only to Veblenians, but to other radical critics of traditional economic theory. But the exposition is novel and the style attractive: the statements, for example, on pages 84 and 85 relating to wants as social habits and the assertion that if the economy has any meaning at all it is the job of the economist to discover it. To seek that meaning solely in an analysis of price is rightly rejected by Ayres, not only because no true meaning is to be found in it, but because it is often made an excuse for reviving the whole transcendental metaphysics of natural order philosophy.

The second section, as I have said, is on purely orthodox Veblenian lines. Here we find the standard definition of economic life as including activities both of a technological and a ceremonial character. The economist is made responsible for analysing the distinction between them and to expose the quality of this basic Veblenian dichotomy. There are some admirable examples throughout the remainder of this section of the peculiar nature of the progress of technology, based on an analysis of the many instances when novel combinations of existing materials and devices have led to great inventions.

The brief historical summaries of the dichotomy between industrial evolution and ceremonial patterns—whatever one may think of the concept as such—are extremely well done; and in

the chapter on technology and institutions the conflict as it presents itself to-day is well stated.

The final section, as I have already said, is somewhat disappointing. Professor Ayres is an admirable critic and a lucid expositor of Veblen; indeed, he is a disciple who can carry farther his master's work. In his first two chapters many critics of the present economic system and of its theory, even if they are not followers of Veblen, will not find much with which they will have to quarrel. But Professor Ayres's more positive prescriptions regarding the strategy of progress will sound at best simple, at worst misleading. Nevertheless, this is a book to be heartily recommended. Here and there it is irritating, but even where it is so it provides a powerful stimulus to independent thought.

ERIC ROLL

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Ekonomisk Teori. I. De Ekonomiska Kalkylerna. 1939. Pp. 286. II. Kausalanalys av det Ekonomiska Skeendet. 1944. Pp. 661. By J. ÅKERMAN. (Lund: C. W. K. Gleerups Forlag.)

PROFESSOR JOHAN ÅKERMAN, taking a sceptical view of the basis on which his Swedish colleagues have attempted to build up the structure of economic dynamics, has consistently held that a new approach is necessary. In the ambitious work under review, he sets out in detail his criticisms of the trend of economic thinking and the reformulation which he proposes.

The argument may perhaps be summarised as follows. Static theory, with all its modern refinements, remains very much a descendant of the eighteenth-century concept of a "natural order." Everyone recognises that this is no more than a first approximation. There have been important extensions of this narrow framework—for example, the introduction of "anticipations" with the object of stating the conditions of a "dynamic equilibrium." Then there is the work of those interested in the dynamic problem conceived as a sequence of events through time, involving such questions as elasticities of reaction. Using quite different tools, the inductive researchers have looked for statistical uniformities in the history of business cycles. But despite all this, economic science still has a skeleton in its cupboard. There is a fundamental dualism between theory and reality. And Professor Åkerman can see only one way out of this dualism. In his view, one can arrive at a satisfactory analysis of *causation* only by concentrating on changes in the economic *structure* of

society and the changes in motive lying behind them. The calculations of the individual subject are strongly influenced by the institutional framework; and it is not sensible, for example, to apply to a semi-planned economy the assumptions about behaviour which fit a *laisser-faire* society.

The first volume of this work begins by re-examining the philosophical background of economic thought, and then goes on to show the kind of restatement of economic principles which is necessary in the light of current institutional and structural developments. The second volume contains an exhaustive survey of statistical facts about business cycles. Taking a wide historical sweep, the author concludes, among other things, that five out of eight cases of international crisis in the business-cycle period reviewed were due mainly to the disturbance of war. He suggests that this has not been adequately appreciated by economists.

One cannot but admire the wide learning and stimulating comment which characterise this work. Many readers will feel, however, that the author has failed to prove his case. Even the least charitable critics will agree that economics did not do badly under the stern test of the recent war. Though Professor Åkerman's demand for a complete reformulation may not be justified, much of the argument used to support his scepticism deserves careful consideration.

BRINLEY THOMAS

Cardiff.

Industrialisation and Foreign Trade. (Geneva: League of Nations (London: Allen & Unwin), 1945. Pp. 167. Paper-bound 7*s.* 6*d.*; cloth-bound 8*s.* 6*d.*)

THE recent League of Nations studies of *Europe's Trade* and *The Network of World Trade* emphasised the importance of the industrial countries in world trade, and the importance of trade between industrial countries in the world trade-pattern; Mr. Hilgerdt who was mainly responsible for them, now turns to a comparative and historical analysis of the relation between the growth of manufacturing industry in different countries during the last seventy years and the growth of trade—especially of trade in manufactures. Nothing could be of greater interest at the present time, and nothing could be more admirable than the approach to the problem through a massive research into sources for indices of trade, manufactured output, and price.

It is certainly important, however, that its conclusions should be scrutinised with great care, if only because, like those hinted

at in Mr. Hilgerdt's earlier works, they are full of comfort for old industrial countries like the United Kingdom. It may therefore be best in a short review to enquire into the nature of this comfort rather than to range over the whole field surveyed—which is a wide one, including among other things an interesting discussion of the process of industrialisation in relation to its institutional background.

What, in the first place, are the quantitative relations which the author succeeds in establishing? They may be summarised as follows:

(i) International trade in manufactures did not increase as fast, proportionately, as manufactured production from the 1870's until about 1900, but thereafter increased faster until 1914. After 1918 trade in manufactures emerged in a permanently lower relation to output, but the two increased almost equiproportionately until 1929, after which they diverged sharply.

(ii) For countries of about the same size, per capita output of manufactures and per capita imports of manufactures are positively correlated.

(iii) Between about 1870 and 1930 there is a fairly close correspondence between imports of manufactures and manufactured output for most of the important countries considered separately. Divergences appear to coincide with changes in economic policy—apart from the biggest divergence of all, which was that associated with the war of 1914–18.

(iv) Between the 1890's and the 1920's those countries whose industrial production grew fastest increased their imports of manufactures faster than the average.

(v) Until as late as 1926–9 the older industrial countries were increasing their net exports of manufactures, and some of the countries in an earlier stage of industrialisation—including Russia, Australia, Spain, and Finland—were increasing their net imports of manufactures.

On these facts the author concludes that, in conditions of normal economic growth, industrial development is usually not likely to cause a reduction in the import of manufactured articles, and that danger to the interests of the older manufacturing countries lies in disturbances to trade—such as wars and breakdowns of the mechanism of multilateral exchange—rather than in the growth of manufacture, as such, in other countries. He gives, moreover, a number of analytical arguments to support this view—as, for instance, that industrialisation of backward countries generally goes with an opening-up of communications, so that most of the new industrial output is absorbed by entirely new

channels of internal trade; while primary production is also stimulated, expands, and becomes more readily available for international commerce.

Much of this is undeniable as a matter of history. It is a matter for closer enquiry, however, how far the circumstances of industrialisation—wars and breakdowns of trade apart—may cause it to take different forms with widely different effects on trade. The opening up of a naturally wealthy new territory under conditions of reasonably free trade certainly involves both industrial development and a great expansion of international commerce; it is far less certain that trade in manufactures will increase when primary-producing countries already commercially opened up find it convenient or possible to engage in manufacture more than formerly.

One condition which clearly stimulates such countries to manufacture goods which they have hitherto imported is an adverse change in the terms of trade, and it may be significant that the two notable periods of such changes—from the later 1870's to 1900, and the depression of the 1930's, besides 1914–21—were periods in which trade in manufactures decreased sharply in relation to output of them. It is a commonplace, too, that the spread of education and modern institutions decreases the differences on which much national specialisation is built. Fifty years ago, every advance in manufacturing technique increased the degree of specialisation, because such advances could be applied only in a minority of countries; now, however, they can be applied in a large and ever-increasing number. The rise of cotton industries near both to the sources of material and to the big tropical markets, replacing older industries situated far from both, is typical of much perfectly normal economic development which is to be expected. The advance of techniques also diminishes comparative cost differences in many instances; alternative methods of satisfying a given want increase, and very often common and cheap materials are substituted (with the help of capital and skill, which are themselves becoming more widespread) for local and scarce ones. Perhaps it would be useful to enquire how much of the decrease of trade in relation to output between 1914 and 1939 was due to the normal operation of these factors, rather than to war, depression, autarky, and difficulties with the mechanism of payments. Certainly it would be wise to consider how far they might affect normal economic development in the next decade or two, even with trade-barriers lower than they have been of late.

To call attention to these considerations, however, is not to

detract from the excellence and usefulness of Mr. Hilgerdt's study.

A. J. Brown

London.

International Economic Co-opcration. By J. Tinbergen. (Amsterdam: Elsevier, 1945. Pp. 208.)

This is an English translation of a book written mainly during the occupation of Holland, with a postscript added in the autumn of 1945. It is not an essay in econometrics. Except for a few passages, such as the interesting appendix on Professor Graham's case for protection, it is written in a simple style, with a laudable attempt to illustrate the argument, wherever possible, by statistical tables, charts and orders of magnitude.

Professor Tinbergen's analysis of the facts and theory of international economic relations leads him to advocate a policy very broadly, apart from a difference of emphasis discussed below, in line with the Bretton Woods agreements and the *Proposals for Consideration by an International Conference on Trade and Employment.* He strongly advocates an international economic centre and a curtailment of national sovereignty, so as to prevent arbitrary and unilateral limitations of international trade and financial transactions and arbitrary changes in rates of exchange; he lays great stress on co-operation in trade-cycle olicy, and believes in international measures to reduce the ris of international lending and to control cartels. Failing wide international agreement on these lines, but only as a *pis aller*, he would favour collaboration by the Western European countries, including our own.

While many will agree with Professor Tinbergens' general conclusions, there will be fewer, I think, who can accept every detail of his arguments.

In some cases the reader might be more easily convinced if he could consult the Dutch publications to which Professor Tinbergen refers—and some of these references are tantalising to the British reader. Thus when he argues (p. 156) that there is a maximum value, at any one time, for a country's exports—which is not very much greater than the existing value—he starts from a statistical finding (the reference is given on p. 50) that the elasticity of demand for a country's export products is often about two. He then assumes implicitly that the demand curve for exports is a straight line (*any* percentage reduction in price from the initial level causing twice as great a percentage increase in the quantity

exported). From these premises it follows easily that the maximum value of exports is only 12½% above the initial level. But do the statistical calculations establish that the demand curve for exports is a straight line, which means a rapid fall in the elasticity of demand as exports increase? If not, the possibilities of increasing the value of exports by lowering their price may be much greater.

Apart, however, from any statistical proof, most readers will agree that there is quite likely to be a maximum value of a country's exports in terms of foreign currency. They will also concede the possibility that no rate of exchange can be found at which exports (including invisibles) are sufficient to cover imports. This is certainly true of the United Kingdom in the immediate future, and possibly in the long run as well. Having stressed this point—that the rate of exchange may be a bad regulator of equilibrium in the balance of payments—one might have expected Professor Tinbergen to concede that there may in these circumstances be a case for the restriction of imports. But he appears to argue instead that a country can achieve equilibrium in its balance of payments, without restricting imports, if only it will maintain what he calls "monetary equilibrium." This, he says, "means the same as the carrying out of a correct trade cycle policy." Now, monetary equilibrium seems to be defined broadly as a state of affairs in which the national income equals consumption plus net investment at home plus *long-term* foreign investment. In these circumstances it is clear that movements of gold and short-term capital taken together will be nil, that in this sense there will be equilibrium in the balance of payments, and that, in the absence of a flight of private capital, the monetary authorities will suffer no loss of reserves. But surely monetary equilibrium so defined does not necessarily mean full employment; on the contrary, the only way of achieving such a "monetary equilibrium" and so equilibrium in the balance of payments, without import restrictions, may be by a reduction in the national income and in employment below the maximum level.

A "correct trade cycle policy," in other words, will not necessarily, by itself, secure equilibrium in a country's balance of payments, as Professor Tinbergen seems to argue; although, of course, an international agreement to maintain high and stable levels of employment can help to preserve such equilibrium, if it can once be achieved, by preventing severe fluctuations in the demand for a country's exports.

Professor Tinbergen's analysis naturally makes him impatient

of any form of import restriction imposed to maintain equilibrium in the balance of payments. Why, he asks, all this talk in Britain of the possible need to restrict imports, just because we have to make large payments on account of the debts we have incurred? If only we can maintain full employment, there will be no balance of payments problem; and in any case, with full employment, any purchasing power diverted from imports will be directed to the home market, thus curtailing the supply of exports by an amount exactly equal to the reduction in imports—a rather sweeping generalisation for which no proof is given.

Even if Professor Tinbergen's analysis were correct, it is most unlikely that countries would enter into an international agreement to abolish or limit import barriers unless escape clauses were provided, as in the rules of the International Trade Organisation, for countries which could not otherwise balance their payments.

In general Professor Tinbergen would, I think, like all governments to agree not to interfere with international transactions; he seems to believe that such agreement might be forthcoming from each country if there were a guarantee that all other countries would follow suit. But pre-war exeprience should have taught us to give a different twist to proposals for international economic co-operation. We do not want general prohibitions, but prohibitions of *unwarranted* measures—be it currency depreciation, import quotas or what you will; room must be left for measures of this kind that are warranted, particularly on balance of payments grounds.

Criticism of a few short passages in Professor Tinbergen's work, which are not always echoed in other parts of the book, must not, however, detract from the welcome that it deserves as an eloquent plea for international economic co-operation and a stimulating essay in the economics of international trade. We shall look forward to his study of "Business Cycles in the United Kingdom, 1870–1914," which is promised shortly by his publishers.

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Changes in Income Distribution during the Great Depression. Studies in Income and Wealth, Vol. VII. By H. Mendershausen. (New York: National Bureau of Economic Research, 1946. Pp. xviii + 173. $2.50.)

This book should be read by all who are interested in the facts about short-period changes in the size distribution of in-

comes. It is widely believed, principally on the basis of American income-tax data, that year-to-year changes in income inequality, as measured by Pareto's constant, tends to vary with the level of total income, prosperous years being those of greatest inequality. The writer shows that this is by no means the whole truth, and, indeed, that over that part of the range in which the majority of incomes lie inequality tends to be highest in years of low income.

The principal evidence on which this conclusion is based is taken from the Financial Survey of Urban Housing, which provides information on the joint distribution of family incomes for 1929 and 1933 in a number of cities. The returns for thirty-three of these cities are analysed in this volume: they distinguish between tenants and owner-occupiers.

Mr. Mendershausen first considers the relation between the mean income of the sample for each city in 1929 and 1933 and shows that there is a tendency for high-income cities to have smaller income declines than low-income cities. He then proceeds to a detailed examination of the Lorenz curves for each city for the two years. From this examination it appears that there is a tendency for incomes to be more unequal in 1933 than in 1929, except at the higher end of the income scale. In terms of the Lorenz curves, this means that the curve for 1933 lies farther from the diagonal line representing perfect equality of incomes than does the curve for 1929, until a point usually about two-thirds of the way up the cumulative percentage of total income is reached. At this point the curve for 1933 crosses the curve for 1929, and thus lies closer to the diagonal line. This result, which represents the general tendency not everywhere observed, is checked by investigations into the distribution of incomes in the states of Delaware and Wisconsin and in Germany. The data for Wisconsin and Germany lend further support to the above thesis, but for Delaware the Lorenz curves do not cross one another.

The next problem examined is the change in inequality within the upper group of incomes. Three possibilities are considered: first, that the share of the top incomes in the total income of the upper group increases—in this case their share in total income must increase *a fortiori*; second, that the share of the top incomes in the total income of the upper group decreases, but at a slower rate than the share of the upper incomes in total income increases—in this case, again, their share of the total income will increase; and finally, that the share of the top

incomes in the total income of the upper group decreases at a higher rate than the share of the upper incomes in total income increases —in this case their share in total income will decline. It is shown that on evidence here presented the first and the third possibilities are most frequently realised, the first in the case of tenant samples and the third in the case of entire city and owner samples.

Further evidence concerning changes in income inequality in the lower group of incomes is provided from U.S. old age and survivors insurance data. This evidence indicates that incomes became somewhat less equally distributed between 1937 and 1938 and somewhat more equally distributed between 1939 and 1940.

Various suggestions are made as to the reasons for the observed changes in income inequality. The reasons suggested for the increase in inequality within the lower group of incomes as general activity declines are: first, the increased importance of the income gap between employed and unemployed as unemployment becomes more important; second, the uneven incidence of unemployment between skilled and unskilled occupations, and third, the changes in wage differentials between low- and highly-paid workers. As regards inequality in the upper group of incomes, an explanation is sought in the cyclical behaviour in the types of income receipt most characteristic of this group.

The final part of the text is concerned with an examination of the shifts of position of individual families within the income distribution. Information is provided on the extent to which the original order of incomes is disturbed as time goes on, and reasons are suggested why these changes should take place.

Three appendices are given, the first providing additional information about the data, the second providing a cross-classification of 1929 and 1933 incomes for each of the thirty-three cities covered by the Financial Survey of Urban Housing, and the last dealing with measures of income inequality. Attention is drawn in the course of the book to Part II of Volume V of *Studies in Income and Wealth*, in which a great deal of information is provided about available income distributions, and also to the valuable tabulations of incomes provided in the Wisconsin and Delaware studies. Attention may perhaps also be drawn here to the large-scale investigation of Minnesota incomes in 1938–9 in view of the great amount of information it provides on the distribution of income.

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Deficit Spending and the National Income. By HENRY H. VILLARD. (New York: Farrar and Rinehart, Inc., 1941. Pp. 429. $3.50.)

FOR reasons that were no fault of the author, Professor Villard's book comes somewhat belatedly for review in this JOURNAL. Its pages reflect the intense interest and controversy aroused throughout the economic world by the appearance of Keynes's *General Theory of Employment, Interest and Money.*

Parts I and II of this book are theoretical, the former dealing with the causation of the trade cycle along broadly Keynesian lines, though with modifications which in some cases at least would appear to be improvements; while the latter deals with the concept of the multiplier as developed by Kahn, Keynes, J. M. Clark, and others. The value of this theoretical discussion does not lie so much in the putting forward of new and original theories, as in the very careful critical analysis and comparison of the different lines of approach made by economists of the "neo-classical" and Keynesian school in recent times. Special attention may be drawn to the treatment of income, savings and investment in Keynes's *Treatise on Money* as compared with his *General Theory*; the rôle of "hoarding," or the holding of capital balances, in particular with reference to a stock-market collapse; the importance of period analysis; and the whole of the lengthy and thorough discussion of the nature and varying significance of different types of multiplier. All this is carried out on a high level of reasoning, and is careful, critical, but unbiassed.

Part III deals with the actual experience of deficit spending in the United States after 1933, with the aim of discovering how far an inductive study of the available figures can throw light on the extent to which the national income of the United States was in fact increased on balance as a result of Government expenditure. Cautious though Professor Villard is in what he deduces from the evidence, it would seem doubtful whether some of it can bear even as much weight as he attaches to it. Not only are the issues involved exceedingly complex, but estimates of changes in the component parts of the national income, etc., are subject to such wide margins of error that the subjective element with regard to the selection and weighting of material almost inevitably becomes of preponderant importance.

In Part IV Professor Villard sums up briefly the conclusions at which he has arrived on the basis of his theoretical analysis

and of the evidence which he has marshalled in the immediately preceding chapters. In general he is an advocate, though a very moderate one, of deficit spending as a means of coping with *cyclical* depressions, but is inclined to prefer the method of heavy taxation of incomes which reach levels where there is a high propensity to save, in the case of *secular* depressions caused by a shortage of investment opportunities; for he holds that a continuously mounting internal debt brings with it evils which it would be unwise to ignore. Even with regard to cyclical depressions he does not over-rate the possibilities of deficit spending, and he comes down to earth with an interesting account of the rôle of housing in relation to the volume of private investment.

Professor Villard inspires confidence by the moderation and modesty with which he traverses these controversial fields. He makes no profession of opening new avenues of thought, but his book is an honest attempt to cope with important theoretical and practical issues. It may be commended, both to those who teach economics and to their more advanced pupils, as a guide (though not an easy one) to some of the intricate and abstruse problems in analysis with which modern trade cycle theory has to deal.

C. W. Guillebaud

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La bonne monnaie. Essais sur la monnaie et les échanges. By Edgard Patin. (Paris : Librairie du Recueil Sirey, 1945. Pp. 457.)

In *La bonne monnaie*, M. Patin, a Rumanian financial journalist, discusses the lessons to be drawn from the monetary experience of recent times. His book gives evidence of wide reading, and he has an intimate knowledge of the works of writers on monetary problems in the eighteenth and nineteenth centuries, though he would appear to be less familiar with the work of the modern Swedish-Keynesian school. The index of authors (the only index) contains eighteen references to Keynes, but apart from a passing mention of the doctrine of liquidity preference, the extracts quoted are mainly taken from his journalistic writings, and by careful selection Keynes is even made to appear in the unfamiliar rôle of a deflationist.

For M. Patin the only sound money is that which is based on gold, and he defends the gold standard with all the fervour of a religious zealot: any departure from the gold standard is bound to bring the most condign punishment in its train. He castigates

with equal severity the organised inflation of Soviet Russia and the monetary manipulations of Schachtian Germany. In the case of the latter his objections are based partly on the ground that Schacht enabled Germany to prepare for war, and partly that he brought in a managed currency, exchange controls, etc. The contention that the Nazi financial system inevitably led to war may be justified in terms of political realities; but M. Patin appears to regard this conclusion as equally inevitable on economic grounds, which is a much more disputable proposition. It may be also suggested to M. Patin, as well as to other observers of the economic systems of Soviet Russia or Nazi Germany, that no general conclusions are likely to be satisfactory which fail to take into account the crucial factor of the *tempo* of economic change in the two countries.

So far as the post-war world is concerned, M. Patin would have us flee at all costs from a devaluation which would leave intact the inflated debt and currency structures which are the legacy of the war in all countries. He would have us proceed to a drastic elimination of the excess money before settling down to a new international gold standard with rigidly stable exchanges; but whether this is to be achieved by a capital levy or in some other way, he does not say.

Reduced to its barest essentials, the main question with which M. Patin is concerned throughout his book is whether mankind can handle successfully, in the long run, any other monetary system than that of an international gold standard. He is quite convinced that it cannot, and he *may* be right, though the experience of Sweden, and indeed of the whole sterling area, seems to afford some ground for optimism in this respect. But if he is right, it will not be because the gold standard alone is intrinsically sound, while any other currency system is intrinsically unsound, on economic grounds; but because the practical working of a managed standard will always sooner or later bring with it evils and abuses which will harm the economic system and deprive it of even that modest degree of stability of the standard of value that was enjoyed by the world in the nineteenth century. In other words, the *political economy* of a monetary standard may suffer from the *economics* of that standard.

M. Patin writes with a very lively and vigorous style; he is never dull, and is usually stimulating even where he may fail to convince those who do not share all his views. The English reader in particular should profit by being made to realise how very different the consequences of, for example, the devaluation of

sterling in 1931, can appear to an intelligent continental observer in contrast to the attitude usually adopted in this country.

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La restauration économique de la Belgique. Transition vers une économie de paix. (Brussels: Baude, 1944. Pp. 177.)

Retour à l'équilibre économique. Profits, fiscalité et prix. By HENRI SOLENTE. (Paris: Recueil Sirey, 1944. Pp. 232.)

AT the end of 1940 a group of Belgian economists and civil servants began to study the problems of the economic reconstruction of Belgium, which would arise when the war was over. Their conclusions were conveyed secretly to their Government in London, and have now been published in this volume in the form which they had reached in April 1944.

In general the recommendations propose the retention of a very considerable measure of State control over all aspects of economic activity during the early post-war period, with a gradual relaxation as conditions improve and become more normal. Private enterprise should remain the basis of the whole system, but should be made to conform to a general direction in the interests of the country as a whole. The report has little to say about the monetary position, but a strong wish is expressed to avoid the evils of both inflation and deflation and to achieve a stability which would not destroy the value of the money holdings of small savers.

With regard to budgetary policy, there should be an Ordinary and an Extra-Ordinary or Capital Budget; the latter being concerned mainly with the finance of such public works as may be desirable for their own sake or as a regulator of the flow of investment throughout the economy as a whole. The national debt, of which a considerable proportion is productive, had only doubled to the end of 1943 and could be carried by the increase to be expected in the national income. The proceeds of special taxation of war profits might be used for the reduction of its amount, but the proposal for a capital levy is discussed and rejected.

After some interesting recommendations in the sphere of social policy, the final section of the report advocates the adoption of a customs union with the Netherlands, which is held to be both feasible and desirable.

The general tenor of the document is hopeful, and this optimism may be said to have been borne out by the events of the

last twelve months, though the shortage of coal—a consideration which does not seem to have been envisaged in the report—has played an important rôle in retarding the recovery of Belgium.

M. Henri Solente also sets out to produce a post-war economic policy for his country—in this case, France. He writes with the background of an engineer rather than of an economist; though, as he is a man of ability and has thought deeply on the problems at issue, he has much to say that is of interest, and a young economic research worker might find a promising theme if he were to follow up some of M. Solente's ideas and suggestions. M. Solente's own interests are, however, severely practical. A study of the economic difficulties through which France passed in the inter-war period, especially since 1931, has convinced him that there were two root causes of her ills—firstly the disappearance of the profit margin owing to the divergent movement of prices and wages, and secondly, the excessive proportion of the national income absorbed by taxation. With the aid of a few calculations based on simple algebraic formulae (beloved of most engineers who write on economic matters), he is prepared to establish for the future the correct levels of prices and wages, the due and proper relation of the national debt to the national income, the maximum permissible level of taxation, etc. It is significant that his book is entitled *The Return to Economic Equilibrium*; and he regards it as axiomatic that, because France was prosperous at certain earlier periods, this was due to the economic relationships of prices, etc., prevailing at those times. Restore these relationships and the system will once again function satisfactorily. The realities of economic phenomena and the complexity of their causal connections are however such that the application of M. Solente's formulae would be likely to produce results very different from those which he so confidently expects. It is on different lines from those put forward in this book that we must look for a solution of the problems with which France is faced in the reconstruction of her economy.

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Précis des Mécanismes Économiques Élémentaires. By CHARLES RIST. (Paris: Librairie du Recueil Sirey, 1945. Pp. 378.)

ON the morrow of the armistice of June 1940, Professor Rist set himself to write a book that should help the regeneration of his country. The project was one that he had entertained before

the war. Most of his young compatriots leaving the secondary schools knew next to nothing of the economic workings of a modern community; the teachers who would willingly have found a place for economics in their upper forms lacked a book on which to base their courses. Such a book Professor Rist has now provided. It is not an "introduction to economics," of familiar scope: the author has taken his task to be only to describe "how things do in fact happen," and this he does by way of a study of markets—produce markets, capital and money markets, foreign exchange market—together with the two great developments out of which they have arisen, the growth of monetary institutions, and the diversification of output. The object, in a word, is to expound the division of labour, national and international. How much there is here that can be told without abstraction, or hypothesis, and yet is new to the sixth-former; and how many errors fall by the way!

Yet since the purpose of theory is to explain the working of these mechanisms, it is hard to describe them, and especially those of money, without at least having some theory at the back of one's mind. Here I think the English reader is likely to notice two points at which the theory that underlies Professor Rist's account differs from his own. The first is in the description of the banking system: Professor Rist holds that the banks lend only what is deposited with them. That the purchasing power of the public can be increased by the banking system he states explicitly; but when the banker makes an advance in the form of a book entry, the borrower, he says, must be conceived as having exercised his right to draw cash, which he then redeposits with the banker: so that what the banks are really doing is only to make cash circulate more rapidly. The other point appears in the treatment of savings and interest. For Professor Rist, savings are what is spent out of income either on assembling new equipment or (their principal application during a depression) on acquiring the title to existing equipment, and they are to be distinguished both from hoarding and from the funds, withdrawn not from income but from circulation, in which the money market deals. The rate of interest is fixed in that part of the capital market in which new loans are offered against new savings, and the rate established here is then used to capitalise the yields of existing

Though Professor Rist sets himself to avoid raising questions of policy, his work is permeated by a strongly held conception of what are the dominating economic forces. He sees the economic

history of the last hundred and fifty years as above all a process of increasing diversification; and this is just the total outcome of a myriad individual energies, constantly promoting changes, forming new exchange relations, developing new institutions. Decrees may go out from Cæsar Augustus, but what will persist depends on "the silent plebiscite" of the common man about his daily business: paper money has passed away again and again because of the universal desire for a metallic money; international trade has been impeded by deliberate restrictions, and yet we find it taking on ever new forms in response to the ever new developments of technique. "Nothing better deserves to hold the attention of historians and economists than this contradiction between the spontaneous development of the economy and the publicised tendencies of opinion and legislation, between what is the *real* social evolution and what it is the fashion to wish for and foster." This is not the reading of economic history that runs current in the day of a new social order, but, right or wrong, it is a long view. It seems to me an achievement in the scholarly tradition that Professor Rist, writing during the occupation, should have fixed his gaze clear beyond the momentary turmoil.

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La Localisation des Diverses Productions. By LAURENT DECHESNE. (Brussels: Les Éditions Comptables, Commerciales et Financières. Pp. 239.)

THERE are few all-round text-books on the Localisation of Industry, and Professor Dechesne's volume in the Bibliothèque Générale des Sciences Économiques is very welcome. His "lay-out" is most systematic and clear. Chapter I gives a brief (and occasionally somewhat acid) review of previous theories. Chapter II, taking localisation to arise from the physical separation of production from consumption, formulates the problem as the balancing of the economy of large production in a given place and the cost of the long "circulation" of materials to that place and of products from that place to the consumer. This formulation is consistently referred to throughout the book, and the useful words "*adduction*," or inflow of materials, and "*écoulement*," or outflow of products, occur, as indicating the basic costs of localisation, like a continuous refrain.

Chapters III to VI then analyse industries into four diverse types from the standpoint of localisation: the extractive

industries; industries "rooted" to extraction (*e.g.*, agricultural processing and heavy metal conversion); industries emancipated from the heavy costs either of "*adduction*" or "*écoulement*" and free to seek skilled labour or cheap motive power; and industries that must still reside near the consumers. To these four types already standardised in Anglo-American parlance as extractive, tied, footloose and residentiary, Professor Dechesne adds in Chapter VII a fifth case of manufacturing where (as in mountain valleys) inflow and outflow are both so costly that the element of transport must be negligible as against workmanship and quality. The Swiss watch and precision instrument industries are examples.

Chapter VIII then considers *original* factors in the localisation of particular industries in some given place, such as the presence of raw material or types of water, and *derived* factors occurring where localisation persists by inertia. And Chapter IX tackles the hitherto somewhat uncharted location factors in the linkage between industries. After this point chapters are somewhat more isolated in their subject matter, but XII has a fundamentally important discussion of the size of the market, and XIV brings in political factors in localisation. Chapter XVI is a succinct *résumé* of the whole argument; there follows a long bibliography, including many articles in the ECONOMIC JOURNAL, but from which are missing E. Hoover's study of localisation in the American shoe industry and Dennison's *The Location of Industry and the Depressed Areas*.

If a constructive criticism may be made to add to the logical clarity of this book, it is that the discussion of linked industries in Chapter IX is mixed up with two other and separable problems, that of the general localisation of industries in large towns, and that of future trend. The facts and explanations of general localisation as an economic advantage in itself anywhere, and/or as an advantage at some particular places like traffic hubs, is worthy of a chapter parallel to the chapters about the facts and advantages of localisations of particular industries anywhere or at some particular places. And the trends are worth separate study in the homogeneous concentration of a single industry; in the mixed concentration of linked heterogeneous industry; and in industry as a whole.

In his preliminary chapter Professor Dechesne attacks earlier writers for being too theoretical and abstract, and claims to conform more to reality. This does not mean, however, that he starts out comprehensively with all the facts he can observe and measure

before proceeding to generalise. He attempts no statistical measurement of the localisation of all, or indeed any of the "diverse" industries, and industries are mentioned merely to illustrate the points he "deduces from experience." In short, Professor Dechesne is more realistic than some of his predecessors only in so far as he takes more factors into account. This book is thus a contribution to clear, logical and all-round exposition rather than to a new inductive, more realistic, method of approach.

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Small and Big Business. By JOSEPH STEINDL. (Oxford: Basil Blackwell, 1945. Pp. v + 66. 7*s.* 6*d.*)

THIS first monograph of the Oxford Institute of Statistics combines a theoretical and statistical approach to the "economic problems of the size of firms." Its statistics are drawn exclusively from American sources, such as the U.S. Census of Manufacturers, and the author has made good use of the data summarised in the monographs of the Temporary National Economic Committee. The general conclusion is the relative efficiency of large-scale organisation and the determining rôle played by technical progress.

The conclusion from the statistics leads naturally to the theoretical expectation that, in competition, large industrial organisations will overcome small organisations, the process ending up inevitably in a concentration of output and the establishment of a monopoly position. Marshall denied the inevitability of this ending, owing to his belief in the ultimate decay (like that of the old trees in the forest) of an entrepreneur's faculties or of his liking for energetic work, and in the ease with which newer firms (like the young trees) could, *e.g.*, by borrowing capital, replace the old. In his very first chapter Mr. Steindl tackles this famous analogy of the trees in the forest. Two categories of points are attacked: (1) Marshall's methodology—the framework or model of the economic world he sets up; and (2) the facts within this framework. On the facts Steindl is certainly right in his criticism. There *are* strict limits to borrowing by small entrepreneurs, and the decay of the entrepreneur's faculties *does not*, in the era of joint-stock companies and permanent combines of companies, play a paramount rôle. Indeed, one might go farther than Steindl, and say that the owner-manager entrepreneur is in most

staple manufactures so unimportant that he should to-day not be referred to at all in economists' arguments.

But Marshall, thinking and writing in late nineteenth-century England, can hardly be blamed—though his successors should be—for basing his views on the real forces then at work. And Marshall's methodological framework still seems to me of great value in interpreting current forces; its realism is not fully appreciated by Steindl. Marshall grasped how complicated the reality was. Size, for instance, may refer to size of firm *or* size of plant *or* size of an industry or market, measured in the number of units produced or demanded of a single commodity (to which the law of increasing return usually refers) or a wide range of commodities. And the precise reference is vital to realistic argument.

Steindl makes play of Marshall unconsciously admitting the imperfection of markets. But the fact that the demand for " manufactures which are adapted to special tastes " (to which the passage quoted from Marshall refers) is limited, *e.g.*, by transport and communication costs, is inevitably due to the geographical scatter of consumers of a single commodity or narrow range of commodities not in common use. Indeed absence of transport cost limits to size is practically inconceivable and was not (see *Principles*, Ed. 6, p. 325) conceived by Marshall. A perfect market assuming such absence becomes as unreal and useless a basis for argument as the perfectibility of man. In fact transport costs are an ever present limit to the size of plants (though not firms), and to the number of units of a commodity produced in any one place; Mr. Steindl should mention them in his general Survey of Factors, Chapter II.

Though Mr. Steindl's development of theory in the light of statistics is naturally of great interest to the economist, this book has the practical end in view of shaping national policy on the problem of the small man. Chapter VI, on the factors making for the continued existence of small firms (here including transport costs) is admirably concise and to the point. In the final chapter (VII), Mr. Steindl rejects anti-trust legislation as a policy, but thinks the small man's hope must rest on a full employment policy, co-operation (*e.g.*, in purchasing materials) and in government measures to overcome financial disadvantages. It is indeed on the problem of capital intensity (Chapter III) and the financial structure of firms (Chapter IV) that Steindl produces the most original theoretical work. In explanation of the statistical findings of Professor Crum his theory confirms the conclusion

(p. 47) that though small corporations are more likely to make losses, they take "higher risks in exchange for the chance of increased profit in case of success."

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Prospects of the Industrial Areas of Great Britain. By M. P. FOGARTY. With Introduction by G. D. H. Cole. (London: Methuen & Co., 1945. Pp. xxxv + 492. 32*s.*)

THE main body of this book summarises the results of regional surveys, conducted on behalf of Nuffield College by local investigators, into the "extent, effects, and probable permanence of the redistribution of industry and population brought about by the war." The treatment is very uneven. At best there is a concise picture of the industrial structure of the region concerned; at worst there is a dreary desert of arid facts, with little attempt to distinguish the significant from the trivial.

The chief danger of the method of regional survey is that of a limited approach, with neglect of matters which are of vital importance for the economy as a whole. This danger has not been avoided; for example, there is no discussion of mobility of labour as a means of adjustment to industrial change, the surveys being conducted on the implied assumption that each region is a self-contained unit. It might have been expected that this serious deficiency would have been supplied in Mr. Fogarty's introductory chapter on general trends and his short final chapter of conclusions. But his treatment of this question is incidental and sketchy—which is perhaps characteristic of a discussion of location of industry which neglects the idea of cost.

After a short preliminary chapter which, with the help of elaborate tables, shows the position of prosperous and depressed areas before the war, Mr. Fogarty sets out to assess the probable permanent effects of the war. He presents a miscellaneous collection of material, the relative availability of which seems partly to determine the emphasis given to the topics discussed. There is almost no attempt at systematic analysis; what Mr. Fogarty says on one matter might be applied to the whole: "It is possible to extract from the confusion a few somewhat uncertain generalisations; but it is clear that too much reliance should not be put on them." Mr. Fogarty's main conclusion is that "so far as it is possible to forecast prospects with any degree of certainty, pre-war trends are unlikely to be reversed; they may

change their speed or relative importance, but are unlikely to show an entirely different type of pattern"—which for incisiveness of thought and clarity of style can be matched with the statement in Professor Cole's introduction: "The war-time pattern of industrial development will necessarily influence the post-war pattern; and because of it pre-war trends will not be exactly resumed in any area. But, in the absence of deliberate re-planning, it seems unlikely that this factor will be of more than secondary importance in most regions, though there are particular places in which it is likely to be of primary importance in any event."

The main theme, supposedly emerging from the surveys, is the need for "comprehensive planning"; from any argument which is presented, it would be more correct to state that this is the primary postulate. In his introduction, Professor Cole makes it clear that this comprehensive planning means the fitting of employment opportunities to available labour supplies in the most elaborate and intricate detail; it is only in this way that we shall get a "balanced system of full employment," for which the proposals of the Government *White Paper* are quite inadequate. Mr. Fogarty, however, is a bit uneasy (he has had to examine the matter in rather more detail). He states that "the need is not only for planning in all parts of the country; it is also for comprehensive planning designed to deal as a whole with the problems of each region of the country generally," and this apparently means detailed control of the distribution of industry. Yet when he comes to consider what would, to use the current terminology, be called "positive" proposals, all that we are to have is "some sort of loose-fitting scheme of mutually consistent directives" (thus is comprehensive planning made "flexible"). This is the crux of the matter; it is easy to talk of the need for planning, comprehensive or otherwise, but it is not so easy to determine the detailed objectives, nor to forecast, and allow for, all the possible developments which might well make nonsense of the best-conceived plan. Mr. Fogarty's own "principles" are mostly of the order that "somebody" should work out the objectives and make the forecasts—"it must be the duty of some national authority to take (*sic*, make?) on the one hand an estimate of the probable rate and direction of development in each industry, and on the other an estimate of the probable condition and needs of each region, and to compare the two and extract from them, in the light of all the relevant considerations," etc., etc.

This does not get us very far, and it cannot be said that the

aim of the Survey—" to provide some solid grounds from which future plans can start "—has been achieved. The factual material which has been collected with so much labour makes the book useful for reference, though defects in presentation demand that it should be used with caution. But a discussion which hardly gets beyond reiteration of vague objectives (" comprehensive planning," " balanced industry," " positive action," etc.) contributes little to that understanding which is essential if policy is to be more than a succession of clumsy makeshifts with results which may be as unfortunate as they are unexpected.

S. R. DENNISON

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Cambridge.

The Organisation of Electricity Supply in Great Britain. By H. H. BALLIN. (London: Electrical Press, Ltd., 1946. Pp. xv + 323. 21*s*.)

TIMELY as is this book, with nationalisation in prospect, the publishers' claim to the first full account of the growth and problems of electricity supply is too sweeping; there have been other writers in this field, *vide* the incomplete bibliography of the book itself, originally a doctorate thesis. One aspect only is treated in detail: the legislative framework within which the industry's organisation had to develop. The publishers " desire to say frankly that they are not always in sympathy with the author's interpretation of events on the evidence presented, nor always in agreement with his judgment on motives when he enters the political field."

This unusually elaborate disclaimer prepares the wary reader for a bias the author has sedulously striven to control. The effort has left its mark on the writing, and the mere fact of concentration on the legislative aspect of organisation presents to the reader a battle panorama of political rivalry and internal schism—a necessarily distorted portrait of an industry having to its credit over sixty years of spectacular growth, of proud achievement in public service, and of enviable tranquillity in labour relations.

Starting with municipal aspirations at the time of the first electricity act, Dr. Ballin analyses in well-documented detail the recurring struggles of the Mother of Parliaments to let out the legislative clothing of a child always growing faster than her most sanguine expectations. Technical progress constantly enlarged the natural administrative unit of an industry in the hands partly of

companies and partly of local authorities. The author reviews the attempts to promote larger units by local expansion, by regional amalgamation, and on the national scale. Throughout he uses the particular case of Greater London to illustrate and emphasise the difficulties of co-ordination. His reporting of each stage is on the whole well-balanced and incisive, although his interpretations of contemporary motive are occasionally too logical to be convincing. The final chapter, setting out the considerations in further re-organisation, could be studied with advantage by legislators of every party.

The difficulties of maintaining balanced perspective throughout a critical historical analysis are not altogether avoided. The preceding half-century of troublesome water-supply legislation (a strong formative influence in the first electric lighting act) is barely mentioned. His view that "municipal trading is collectivism *par excellence*" devotes undue length to the municipal trading controversy while ignoring the practical barriers to progressive policy; company undertakings had to deal with our parochial mosaic of local government, and local authority undertakings were forced into the mould of a cumbersome committee procedure and accountancy structure protecting the ratepayer rather than facilitating long-term planning by a trading concern.

Reliance on over-laudatory post-war reviews has coloured his account of electricity in the first World War. Munition needs, he says, "entirely depended on the speedy provision of power. As electric generating stations existed in all parts of the country, a supply could be obtained from them with little loss of time." It is now generally accepted that the preponderance of small electricity supply stations compelled a large proportion of the munition industries to provide their own generating plant. The consequent delays, and the chaotic medley of technical systems which prevented equipment standardisation, were potent factors in the notorious "shell scandal." The growth in private industrial generators revealed by the 1924 Census is some indication of the inadequacy of national power resources during the first war, realisation of which led to the war-time committees and inter-war reorganisation measures reviewed by Dr. Ballin. His phrase that "until the end of the first World War at any rate" there was a noticeable trend towards raising the size of plant is strangely out of focus; having regard to the spectacular inter-war increase in size, the trend had hardly started by then.

Turning to the inter-war period, his account of the failure of attempts at voluntary regional co-ordination under the aegis of

the Electricity Commissioners does not mention the powers of general supply in "unoccupied" parts of their power supply area conferred on a number of Power Companies from 1923 onwards, which to some extent were substitutes for the abortive Joint Electricity Authority proposals in the 1919 Act. There are two references to the fall in industrial power consumption during the depression of 1929 to 1933. There was a fall, but of negligible importance—some 70 million units in 1931 only; industrial sales in 1933 were over 700 millions higher than in 1929. No mention is made of a matter of greater consequence to the Supply Industry—the application of the derating provisions of the Rating and Valuation (Apportionment) Act, 1928, to private industrial generating plants, whereas public supply stations remained rateable.

When dealing with the 1926 Act, the author states on p. 199, the Government accepted the responsibility of the Central Electricity Board for the cost of frequency standardisation, while on p. 206 he makes clear that the cost (stated to be £19 millions, whereas C.E.B. accounts show only some £17¼ millions) is borne by a levy on the whole industry. The grid tariff basis is said to be 10 years; in fact it is "a term of years to be approved by the Electricity Commissioners." Production difficulties perhaps precluded reference in an April 1946 publication to the new uniform tariffs introduced by the C.E.B. in January—incidentally on a 5-year basis. Even a footnote on these would have added to the value of his discussion of tariff principles.

This is not a book which can be commended wholeheartedly as a guide for the uninstructed student, but it is a thought-provoking addition to the library of an industry whose importance to the community merits a far more extensive literature.

R. Y. SANDERS

London.

The Physical Survey of Merseyside: a Background to Town and Country Planning. By WILFRED SMITH. (University of Liverpool Press, 1946. Pp. 97. *5s.*)

IN this small publication there is packed a great deal of information at once of great interest to the geographer as well as to the planning expert. Mr. Smith knows his district intimately, and clearly has also a profound interest in it.

He has written this book, which is part of a Report for the Ministry of Town and Country Planning, as "a geographer's contribution to the data available to the landscape planner."

Roughly two-thirds of it are devoted to a full discussion of the effects and significance of the geology and physiography of the area—which includes not only Liverpool and its immediate environment in Lancashire, but also much of the Wirral peninsula. The treatment is detailed and well presented. Whilst the relief as a whole is slight, the small differences are clearly of importance in the siting of suburbs, industries, and communications as well as forming interesting features in the landscape.

The second part deals with the climate of the district. Although weather is probably the most common item in the conversation of the ordinary Englishman, it is nevertheless usually not understood even in general terms. The reader of Mr. Smith's book will find a great deal of real interest on this topic : aspect, altitude, nearness to the coast and other factors—all in a limited area—are all shown to be of real significance. In a sense the subject of micro-climatology is introduced : generalisations may be made about the climate of Lancashire and Cheshire, but they will not explain the subtle yet very definite differences that exist between Sealand, Bidston, Southport, Speke, Hoylake, and other places. Bidston, *e.g.*, has as an average 26·2 days a year with ground frost, Hoylake 79·4 : again the incidence of the wind at Southport is markedly different in February and July : land winds prevail in winter, whereas the sea breeze becomes important in July. These are but one or two instances : even if for no other reason, the general reader would do well to study this section in order to see how much " weather " varies even in a small area.

It is no criticism of Mr. Smith to say that in a way his book comes too late ! The Liverpool area is developed, and man either deliberately or casually chose the various sites which have now developed into this populous district. Probably he was often quite unconscious of the exact significance of the geology and of the climate, although commonsense would dictate a reasonable answer in most cases. What we really want is such a survey as Mr. Smith has made before we develop our new towns. He has shown us clearly the importance of a careful analysis : his precepts should be applied to districts yet to be developed, so that the best is made of them.

It is a pity that the maps were not more elaborate : fully coloured maps would certainly have increased the price, but, on the other hand, they could have made the author's points far clearer. Presumably his full report to the Ministry will be accompanied by large-scale maps. This point, however, is important : until

the general reader becomes more conscious of the value of maps of all sorts, the difficulties of planning cannot be fully realised.

This little book deserves to be widely known. All readers who are prepared to study it will find much of interest in it. Naturally it will appeal most to those who know the Liverpool area, but it should serve as a useful general guide to any other locality. If those responsible for local government could be assumed to have access to such a compendium as this for their own particular district, a great deal of benefit to the whole country would soon be apparent.

J. A. STEERS

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The Economics of Housing. As presented by Economists, Appraisers, and Other Evaluating Groups. By LAURA M. KINGSBURY. (New York: King's Crown Press (A Division of Columbia University Press), Oxford University Press, 1946. Pp. x + 169. 16*s.* 6*d.*)

READERS of this book should be warned to pay attention to the sub-title. The book is entirely on the subject of valuation of real estate. It does not deal, as the main title would suggest, with such things as demand for houses, rents, cost of building and the like.

Within these narrower limits, the book arrives in this country at a timely moment. A Bill on Compensation and Betterment is brewing as a sequel to the Uthwatt Report, which recommended the nationalisation of development rights in undeveloped land. As the Uthwatt Committee recognised, the assessment of compensation is bound to raise difficult problems of valuation. Similarly, the Chancellor of the Exchequer recently announced that local authorities may possibly, at some future date, be permitted to levy rates on site values. From both these points of view, the book will be eagerly scanned for guidance on the practical problems arising.

The result of such scrutiny is, however, meagre. On the first point—the valuation of development rights—the author cuts herself off from making any contribution by a persistent belief that the "concrete valuation in money terms"—as distinct from "Marshallian abstract value," which she scorns—must be based on existing use value. "Only a land value based upon the existing type of residential use can possess any cogency for

research into the cost and values of housing considered as an organic thing, that is, considered from the consumer viewpoint" (p. 135). This is cryptic and unconvincing.

On site valuation, the value of the argument is much reduced by a confusing belief that the residual valuation of land—*i.e.*, deducting the value of the building from the composite value—is wrong, because it treats the site as more important than the building, whereas in fact the building is usually more valuable than the site. This is quite erroneous, even though Dr. Kingsbury has the *Underwriting Manual* of the Federal Housing Administration on her side. The site is valued residually because it is the *specific* (rent) factor in the combination which cannot be produced at will. This has nothing to do with quantitative importance. Her own favourite principle of "ratio valuation" must be rejected as incompatible with economic doctrine.

Two-thirds of the book consist of an examination of the views of "representative economists" on the subject. While Dr. Kingsbury has good excuse for not being acquainted with the important work of Spiethoff in this field (his *Boden und Wohnung* is still waiting for translation), there must be extreme regret that in her study of "representative economists" she did not penetrate to Wieser's *Social Economics*. Wieser is the economist who has advanced the theory of urban land values more than any other, and a good deal of Dr. Kingsbury's analysis and research has been anticipated by him.

In her criticism of economists, Dr. Kingsbury has no difficulty in showing that the theory of urban land values was much neglected and suffered from being treated as a "junior partner" of agricultural land values. This long after urban land had become the senior partner in economic importance. Dr. Kingsbury also succeeds well in bringing out the internal inconsistencies and contradictory use of terms typical of a neglected field.

Some years ago, in reviewing the Uthwatt Report in this *Journal*, Mr. Austin Robinson threw out a challenge for an explanation of the alleged element of "float" in land values. This book confirms that the answer seems to lie in the professional valuers' preference for valuation by analogy (the "comparison method"). If *all* land is valued by land which has actually been *sold*, this will lead to float, since land which is sold is likely to be nearer development or redevelopment than other land. There is also the interesting suggestion by one of the valuers whose views are discussed that actually buyers of land may pay extra stamp duty in order to use the extra stamps as evidence of value in a

future sale! (p. 107). It would be interesting to know whether anything of this sort has happened in this country as well.

The "other evaluating groups" whose views are considered include the accountants, tax assessors, architects, housing managers and governmental housing agencies. Their combined views fill only seventeen pages, and they do not add anything useful.

The author states, rather disarmingly, that her study arose "out of various blunders which the writer, though a teacher of economics, had made in attempting to own a couple of cottages" which were finally sold at a loss. It must be a long time since people had occasion to mourn losses from selling houses!

H. W. SINGER

The University of Glasgow.

Standardised Accountancy in Germany. By H. W. SINGER. (National Institute of Economic and Social Research: Occasional Papers, V. Cambridge: University Press, 1943. Pp. 68. 6*s*.)

DR. SINGER'S paper gives us a useful idea of the German attempt to impose a uniform system of accounting over the greater part of German industry. As one might expect, it was a system which laid particular emphasis on the record and analysis of operating costs. The basis of the system was a Model Chart and Plan of Accounts. The "Model Chart of Accounts" was uniform for all industrial and trading firms, while the "Plan of Accounts" was uniform only within each branch of industry, but both were interrelated by the simple expedient of adding to the plan further subdivisions of the model chart with the intention of keeping the general headings of the chart identical for all firms.

It seems that the model chart had ten general headings. Heading 0 contained the Resting Accounts—that is, those accounts which did not directly enter the profit and loss account; *e.g.*, fixed capital assets and long-term liability accounts. Heading 1 contained what British accountants would call the Current Asset and Liability Accounts, emphasising liquidity; with this important exception: that stocks of materials were isolated under Heading 3, while work in progress, covering both semi-finished and finished parts, was dealt with under Heading 7. Heading 2 contained the adjustment or reconciliation accounts; Headings 4–6 were assigned to the analysis of costs, and dealt with such matters as the allocation of costs to production centres and to

production units. Heading 8 dealt with operational revenue, and finally, Heading 9 took in the balance sheet and profit and loss account—that is, the financial accounting documents.

It seems that there was a sharp distinction between so-called workshop and financial accounting. Apparently it represented a definite attempt to separate the plant as a technical unit from the business as a commercial unit, and moreover it claimed to separate the real costs of production from the money costs. Dr. Singer tells us that the purpose of the separate workshop accounting system was to have a set of figures from which all outside monetary variations in market prices or even transfer prices, wage rates, interest rates and suchlike items were completely removed. In point of fact, it was a system of quantity accounting in terms of fixed prices. The idea was not altogether new, though what the German system did introduce was a separate adjustment account, the main function of which was to reconcile the workshop and financial accounts.

At this time of day it may be said that any attempt to plan the direction of a country's resources with the aid of statistical information presented in forms drawn from accounting technique is not without its wider relevance. In the field of applied economics national or social accounting is fast becoming a matter of primary importance, and most governments are now seeking to base their policies on a proper understanding of the structures of national economies. A mature system of national accounting must ultimately call for some aggregation of private accounting results, and there must be no impediments occasioned by lack of uniformity in private accounting practices. Thus, as national accounting develops, private accounting will need to devise some conforming uniformity not only in relation to the *design* of private accounts, but also to the principles of income measurement and asset valuation.

But this is only one side of the picture, for, as Sir Henry Clay writes in his preface to Dr. Singer's paper, "whenever by any means the test of productive efficiency imposed by competition in a free market is removed, a comparison of costs of different concerns becomes the only guide to an economic price, and such a comparison is impossible without standardised accounts." Thus the German administration first developed their system as a method of price control, but it seems they also found it a valuable instrument for enforcing economy and raising efficiency by the device of setting prices in relation to the costs of the most efficient enterprises.

As we read through Dr. Singer's exposition of the German system, we do see what a highly detailed affair standardised accounting can become, and when it is pursued with characteristic German energy to the lengths which he describes we can begin to detect some limitations, especially when standardised forms are so rigidly applied over the whole range of industry that they fail to pay proper regard to essential technical differences between individual firms. Nevertheless, there is much to be learned from the German system, and both economists and accountants will do well not to neglect Dr. Singer's paper.

F. SEWELL BRAY

London.

A Short Economic History of Modern Japan. By G. C. ALLEN. (London: Allen & Unwin, 1946. Pp. 200. 10*s.* 6*d.*)

THIS work is likely to remain for some time the best introduction to the subject in the English language. Its chief shortcoming as history is the limited documentary source material in Japanese on which it is based, but against this a number of weighty points are to be counted in its favour. It is the work of an able professional economist who lived in Japan from 1922 to 1925 and again in 1936, who is personally acquainted with many of the Japanese factories and industries of which he writes, and who has specialised for some years in Great Britain as well as Japan on questions of industrial structure and organisation. The result is a more reliable and better-balanced study than might have been made by a student of wider learning in Japanese written materials, but without the analytical equipment and field experience of the author of this work.

The economic history of Japan is illuminating not merely to students of the Far East, but also to students of what is called, in the jargon of post-war reconstruction terminology, "economic development." The international agencies and committees concerned with this subject will need to study carefully the actual process by which "development" has taken place in countries which were late starters in industrialisation. There is no uniform pattern of development and no simple formula to guide them in the distribution of scarce funds among those who wish to borrow. The borrowing of funds is only a part, though an important part, of the process of development. Japan's net borrowings of funds abroad were quite modest, particularly when account is taken of the funds absorbed in naval and military use and of wastage of

Japanese loans in China, in proportion to the economic results achieved. It is arguable that they were less important than her borrowings of the services of school and university teachers, engineers, mechanics, navigators, and other skilled personnel, either by bringing them into the country or by sending their own students to learn from them abroad.

The processes of domestic formation of capital in countries in the early stages of industrialisation are also worth careful study, and Professor Allen's earlier chapters throw some light on them in relation to Japanese history. The conclusion that might be drawn is that borrowing abroad needs to be accompanied by the establishment of institutions at home to encourage the growth of, and draw into the right channels, domestic capital accumulation, and that these institutions should be adapted in each case to local conditions. In future international operations account might well be taken of this in reaching decisions on applications for loans and in specifying conditions attached to loans.

There are a number of other points in Japanese economic experience which are directly relevant to contemporary international economic questions.

The war-time impetus to industrialisation in undeveloped countries outside Europe will no doubt give the infant industry argument a prominent place in the international conference on trade next year, and the question may arise whether exceptions should be allowed for infant industries in slashing tariffs and quantitative restrictions. Japanese history is clear on this point. Tariffs played no significant part in the earliest stages of industrialisation and only a moderate part later. Quantitative restrictions were not used in the earlier stages, and later were used only for reasons of war economy and balance-of-payments difficulties. Infant industries were aided directly by extensive subsidies, and sometimes by establishment of Government plants in the early stages. Those methods seem wholly preferable to tariffs and quotas: not only are they less likely to disrupt international economic relations, but they are a more adaptable instrument than tariffs, and can be used with less sacrifice of the stimulus of external competition than quotas involve.

The discussion of the effects of the Great Depression and the economic policies of the Minseito Government just before and during it is well balanced. Professor Allen stresses the disastrous political effects of deflation, but points out that the spectacular recovery later was aided by the elimination during the depression of much inefficiency and unsound growth. This seems well

substantiated, and raises the general question what would be the effect of continuous full employment on efficiency.

Professor Allen's interpretations of Japan's aggression in the 'thirties runs sharply counter to that of neo-marxism. "The root of Japanese imperialism," he says, "is certainly not to be found in economic causes" (p. 153). And in his summing up he says, ". . . An immense field of industrial expansion lay before her; but she turned aside from it to pursue other ends" (p. 160). Professor Allen does allow for a number of economic events as contributory factors. In general, however, his analysis would lend support to the views of Clapham expounded in the opening part of the third volume of his history on capitalism in relation to war. Though I do not think it is practicable to separate clearly economic from non-economic influences on national policy, I think that Professor Allen's interpretation fits the facts more closely than do the fashionable supposedly Marxist interpretations or the views of some American liberals on the alleged rôle of cartels and the *zaibatsu* in originating wars. However, the question is too complex to pursue in a brief review.

On a number of other important aspects of this work space will not permit comment here. Professor Allen's book should be read carefully by all who are concerned with present policy and administration in Japan and with its future development; and, in addition, by economists generally for the light it throws on economic questions which are significant not only for Japan, but also for all areas which are faced with the problems of developing industries and commerce to meet the needs of a growing population.

E. F. Penrose

New York.

NOTES AND MEMORANDA

REPORTS ON THE IRON AND STEEL INDUSTRY

THE recent White Paper [1] contains three separate reports : one by the B.I.S.F. covering the manufacture of steel and of basic and hematite pig iron, and two by the Joint Iron Council (an *ad hoc* body representing foundry pig iron manufacturers and the Council of Ironfoundry Associations), respectively on the production of foundry pig iron and the production of iron castings.

THE STEEL REPORT

This is much the best and most important report of the trilogy. Though the full details of the schemes for individual plants are relegated (p. 13) to an unpublished appendix, the Report is reasonably specific in its recommendations, and also adds much to the published information on the present state of the industry. Moreover, though its proposals are in certain aspects highly controversial, it is far from timid, both in presenting its case and in the general tenor of its recommendations. As to the latter, for instance, it plans to increase raw steel capacity from 14 to 16 million tons a year, with an appropriate complement of rolling, forging and casting facilities; it recommends a rate of capital expenditure as high, even allowing for price changes, as the best inter-war years and much longer sustained (p. 35); and it proposes that a large proportion of obsolete equipment should be scrapped (p. 25) and the loading of plant drastically rationalised (p. 27).

The most controversial aspects of the Report are the attitude it takes to the allied questions of industrial location and the integration of successive stages of production.

In its treatment of the former question, the Report distinguishes (p. 24) sites under three headings : coastal districts, with relatively easy access to foreign ore; sites based on the lean but very easily won Midland Jurassic ore; and lastly other Midland districts, which are definitely ill-sited for pig-iron production but are in

[1] Reports by the British Iron and Steel Federation and the Joint Iron Council to the Minister of Supply. Cmd. 6811. H.M.S.O. 1s. 6d.

certain cases near to sources of suitable domestic scrap. The districts included under each of the three headings are :—

Coastal.	Midland Orefield.	Other Midland.
S. Wales. N.E. Coast. Scotland. N.W. Coast.	Northants. Lincs.	Sheffield and W. Riding. Lancs., N. Wales and Cheshire. Staffs., etc.

It should be borne in mind that the first heading includes pseudo-coastal sites (such as Ebbw Vale and the Clyde Iron Works) which are many miles from navigable water and strictly speaking belong to the same genus as "Other Midland" sites.

Although much lower total costs of production were enjoyed by the Midland Orefield districts before the war [1] compared with genuine coastal sites, the Report opposes any considerable increase of capacity in these districts. It is admitted that (p. 12) "cost considerations on balance do show some advantage to steel based on home ores," but nevertheless various considerations "appear to confine the extension of steel output on a home ore basis to a maximum figure of the order of an additional one million tons," and this increase taken in conjunction with the Report's other proposals makes little difference to the distribution of capacity between the Midland Orefield and other districts. Only 30% of new building is to be in the Midland Orefield districts, and the share of these districts in total steel-making pig iron capacity will increase only from 25% to 28%, and in total raw steel capacity from 14% to 19% (Tables II and IV). The Report prides itself that the one million tons to be added to the steel capacity in Lincolnshire and Northamptonshire is 60% of the proposed total *net* increase in steel capacity after allowing for the scrapping of obsolete plant (p. 25), but this is surely the wrong basis for comparison.

The reasons advanced in the Report for imposing a ceiling on the development of the Midland Orefield districts are :—

(*a*) the difficulties attendant on moving labour to the districts (p. 25);

(*b*) the use of the relatively lean home ore requires more capital equipment and more fuel per ton of pig iron produced, and in addition the coastal areas are well sited for getting fuel and scrap (p. 12);

(*c*) a wide dispersal of steel production is required to reduce distribution costs (p. 12);

[1] D. L. Burn, *The Economic History of Steelmaking*, p. 505.

(*d*) the more exacting demands made of steel in certain processes (of which the only alleged *new* process is the rolling of continuous strip) rules out the use of the relatively impure Midland ore (p. 12);

(*e*) the reserves of suitable home ore are limited (p. 12).

None of these reasons apart from the first (which by itself would surely not demand such a drastic limitation on the development of the Midland Orefield districts) can be accepted without qualification. Thus *à propos* of reason (*b*) it would seem that the present prices of home and imported ore, of fuel and of capital equipment give an even greater relative advantage to a Midland site based on home ore than did the prices which prevailed prewar, for the average value of imported ore has approximately trebled [1] whereas the prices of home ore, fuel and capital equipment have each approximately doubled.[2] Naturally this calculation is far from conclusive. since present prices of ore, fuel and capital equipment may in no way correspond to "normal" future conditions, but it should be noted that over and above any added advantages which the Midland Orefield districts enjoy due to changes in factor-prices there will be further advantages arising from the partial refining of Midland ore prior to smelting. These further advantages are considerable, since the ore preparation schemes outlined in the Report (p. 29) will reduce the amount of coke required to produce one ton of pig iron from Midland ore from the present 28–29 cwts.[3] to only 20 cwts., little more than the target of 16 cwts. for plants using imported ore.[4] Moreover the trend of comparative coal mining costs seems to be unfavourable to some of the coastal iron and steel producing districts, particularly South Wales. This trend is not at present reflected in coal prices owing to the operation of the Coal Charges Account, which, as the *Economist* complains,[5] removes one of the chief incentives to a more economic location of the iron and steel industries.

Again, in depending so heavily on foreign ore—less than half of our ore requirements, measured in iron content, will be mined at home—we run the risk not merely of high import prices but

[1] The overseas trade returns show the average value of imported iron ore at about £1 a ton in 1936–7 and at about £3 in January–February 1946.

[2] There are no recent quotations for Midland ore, but wages (the most important prime cost) have increased by about 70%. Coal prices appear to have been rather more than doubled. The Report states (p. 33) that the cost of equipment has doubled.

[3] Based on recent experience in Lincs. Figures taken from the B.I.S.C.'s *Statistics of the Iron and Steel Industries.*

[4] The narrowing of the differential between the fuel-costs of smelting home and imported ore is of course partially offset by the cost of ore preparation.

[5] *Economist*, July 20, 1946, p. 111.

also of exchange difficulties; it need scarcely be said that from that point of view it is obviously more difficult than before the war to rely on foreign ores. The import of 7·5 million tons of ore a year (p. 13) plus 250,000 tons of scrap (p. 11) may well absorb some £20,000,000 annually, a very considerable item which in present circumstances must be justified up to the hilt.

The next point, (*c*), is sound except that it ignores the possibility of persuading the customer to move to a cheap steel area instead of retaining an ill-sited producer to supply a local market. Since it was the Iron and Steel Federation's own policy of uniform delivered prices which destroyed the only incentive for the rational location of steel consumers,[1] it is disappointing that the Report does not recommend an improved pricing system.

As to (*d*), the alleged unsuitability of steel made from home ore for rolling in continuous strip mills, it is difficult for the layman to comment. It may, however, be relevant to recall that the original intention of Richard Thomas was to site their strip mill on the Lincolnshire orefield,[2] and that when this site was rejected in favour of Ebbw Vale an essential part of the new plan was the development of one of the company's ore reserves in Northamptonshire to provide ore for the new works. Moreover, the Report itself recommends (p. 15) that part of the output of continuous strip from Ebbw Vale should be rolled from slabs brought from Lincolnshire, presumably made from home ore. One must therefore conclude that the unsuitability of home ore for making continuous strip is far from absolute.

Lastly, on the subject of the development of the Midland Orefield districts, is the question (*e*) of the "quantity of suitable home ore available at an economic cost for the permanent maintenance of a substantial steel industry." The misgivings of the Report are certainly not entirely groundless. Already for instance the surface deposits are approaching exhaustion, and in both Lincolnshire and Northamptonshire quarrying is giving place to underground mining. But no quantitative assessment is given in the Report of the rate at which diminishing returns are expected to operate in the Midland orefields after the transition to underground mining,[3] and no comparison is made with conditions in the orefields in North Africa, Spain, Sweden and Sierra Leone from which the U.K. draws the bulk of its imported supplies.

[1] D. L. Burn, *op. cit.*, p. 498. [2] D. L. Burn, *op. cit.*, p. 459.

[3] This transition does not imply a great increase in costs. Thus the deposits acquired by Richard Thomas to supply Ebbw Vale (see above) were mined from the start, and acquired with that intention.

So far we have considered the locational problem in its simplest form, where completely new capacity is to be built in any case and the question is purely one of choosing the most advantageous site. However, though the Report does raise this straight issue, for instance by proposing (p. 19) a completely new plant on the Clyde for making common-grade steel, the bulk of the investment recommended outside the Midland Orefield districts is to take the form of providing balancing equipment at existing works or in other ways "patching" plants already in existence. As will be shown below in a more detailed commentary on the Report's proposals, very much of the patching will be to plants which are at a permanent disadvantage due to their unfavourable location. Making a very rough allocation of the total expenditure of £168,000,000 set out in Table I of the Report, rather less than half is to be on genuine coastal sites (*i.e.*, with direct access to deep navigable water); 23% in the Midland Orefield districts of Northamptonshire and Lincolnshire; a small amount on inland plants close to a good source of home scrap; and the balance of at least 25% on plants which are without question badly located.

Clearly some defence can be made for "patching," even on the worst located of sites, for it achieves the quickest possible increase in capacity and it may produce the best return to a limited investment of real resources. Indeed, if the resources available for investment are sufficiently limited there is almost no case where "patching" would not be more advantageous to the community than building from scratch on a new site. On the other hand, a community which is in a position to take a longer view should discourage the "patching" of badly sited plants, since it attracts labour and capital to the wrong places, and therefore aggravates the mal-location of industry. The question to be answered is how far other and more pressing demands on our resources will allow us to plan for the more distant future. It is open to argument whether we can still apply the same standard of far-sightedness as was applied, and quite rightly, to condemn much of the very extensive "patching" which was undertaken in the 8 years prior to the war;[1] but the Report does not appear to base any of its recommendations on the assumption that the aftermath of war makes it necessary to discount the future more heavily. Indeed, the expenditure of £168,000,000 in 7½ years, resulting in a net increase of only 2 million tons a year in our steel capacity, cannot seriously be treated as a plan for urgent improvisation, and the detailed descriptions of the proposed new

[1] D. L. Burn, *op. cit.*, p. 470.

furnaces and mills also give the impression of re-equipment *de luxe*.

So much for the locational aspect of the Report. Now we turn to an allied and even more controversial aspect, its attitude to the integration of processes. The advantages of integration are :—

(*a*) The saving of transport and handling costs on transferring the material for further processing and on returning scrap metal for re-melting.

(*b*) The utilisation in the finishing shops of surplus gas from blast furnaces and coke ovens.

(*c*) The economy in fuel due to the transfer of hot material. (This, however, is not relevant to the two most frequent instances of disintegration of processes—the separation of billet production from re-rolling and of sheet bar production from sheet rolling—for the material has in any case to be allowed to cool to permit inspection and the removal of defects).

(*d*) The greater continuity of metallurgical control which can be achieved.

At the present time there is no other section of the industry as wasteful in fuel and transport as the non-integrated re-rollers of bars and light sections, etc., and the non-integrated sheet rollers. With a few exceptions these plants have equipment which has been out-moded (save for making certain specialities) by the invention of the continuous mill. In many cases they even lack direct access to a railway siding. The Report does envisage a considerable increase in the output of sheets from integrated works with continuous mills, but still leaves 25% of the total output to be rolled in works of the old type, even though this will "leave room for further development" (p. 26). Worse still, the proportion of light re-rolled products to be made in continuous mills is about only a half (p. 27) and the proportion to be made in integrated works may well be even less. There will in fact be only a minor change in the present division of output between integrated and non-integrated mills. A further transfer of work to integrated capacity is postponed on the ground that "the extent to which further concentration and integration with the billet mills is desirable requires careful review in relation to the wide range of very varied demands falling on this section of the industry." Since the standardization of the specifications for re-rolled products is a desirable reform in itself, and is certainly practicable for far more than half the total output, "the wide range of very varied demands" is no excuse for not tackling the problem of the non-integrated re-roller.

The Report's undue tenderness to the non-integrated sheet maker and re-roller is only one example of its inadequate attention to the advantages of integration. Other instances will be given in the commentary which now follows on the Report's detailed recommendations for each region.

In *South Wales* (p. 13) £41,000,000 is to be spent, which is nearly a quarter of the total investment recommended in the Report. The bulk of the expenditure is to increase the capacity for making hot rolled strip and for the cold reduction of this strip for sale as sheets and tinplate. The present capacity at Ebbw Vale for these processes is to be increased, despite the bad location of the works; and Lysaght's continuous rolling capacity at Newport, which depends entirely on outside supplies of semi-finished steel, is also to be extended. The main addition to capacity, however, is a new hot strip mill, with additional pig iron and ingot capacity to match, to be built at Port Talbot, an unexceptionable site if we admit the technical necessity for using foreign ore. The finishing processes for this new capacity—*i.e.*, cold rolling and plating—are to be carried out at Ebbw Vale, and at two new plants respectively near Llanelly and Swansea. This recommendation follows the admission that "there can be no doubt on technical grounds and on the basis of economy that the lowest capital expenditure and operating costs would be attained by the integration of these finishing operations with the production of the hot-rolled strip in composite works." However, considerations of cost are over-ruled because they would entail a "movement of population and loss of industry in many villages and towns."

In the *N.E. Coast* district (p. 17), £35,000,000 is to be spent on building 1·5 million tons of pig-iron capacity and 1·1 million tons of ingot capacity, together with auxiliary and finishing equipment. The finishing equipment includes the much publicised beam mill to be installed by Dorman Long, and a new continuous billet mill for supplying non-integrated re-rollers in the district. Given the questionable premise that it is wise to locate so much new capacity on the coast rather than on the Midland Orefield, there is little to criticise in the proposals for the N.E. Coast. The surviving plants will be large, specialised, well equipped and in most or even all cases sited with direct access to navigable water. The continued separation of billet-production and re-rolling is unsatisfactory, but is defended on the ground that two of the re-rollers are equipped with modern mills which it would be wasteful to scrap and expensive to move.

In *Scotland* (p. 18) only a limited expenditure will be incurred

on the badly sited works of the Colville group, with the exception of completing a blast furnace at the Clyde Iron Works (which is over 10 miles from navigable water) and of replacing the steel furnaces at the Dalzell steelworks, which are not integrated with blast furnaces and are far removed even from the best local source of scrap—the Clyde shipyards. Most of the expenditure in Scotland (£29,000,000) will be on a completely new plant near navigable water, mainly for the production of semi-finished steel to non-integrated re-rollers and sheet-makers. The plant itself raises locational problems which have already been discussed, but supposing the location could be defended, there would be a very strong case for providing integrated finishing capacity to replace the present non-integrated units.

The scheme for the *N.W. Coast* district (p. 21) is too small to call for detailed comment.

In the *Midlands* (p. 20) the proposals consist of investing £39,200,000 on plants in Northamptonshire and Lincolnshire and £22,500,000 on plants in Other Midland districts. The former investment is unexceptionable, save only that even at the end of the period covered by the Report no less than three-fifths of the capacity of a proposed new iron and steelworks to be built in Northamptonshire will be devoted to supplying billets to independent re-rollers (p. 23). The case for adding further finishing capacity to the works is deferred for review as part of a "longer term policy."

The investment in Other Midland districts can all be comprehended in the term "patching." The continuous sheet works at Shotton are to be extended and blast furnaces built, even though the site is recognised as a bad one, being 14 miles from navigable water (p. 21). Further expense is to be incurred at Irlam, another unsuitable site.[1] Lastly there are proposals for Round Oak and Park Gate (p. 22), which, along with the Dalzell scheme, share the honour of being probably the least defensible in the whole Report. The Round Oak works in Staffordshire are pure steelworks, using pig iron brought mainly from blast furnaces in the Midland Orefield districts. The claim in the Report that the works are favourably placed for scrap supplies is true, but much of the local scrap is poor in quality and it is in any case very doubtful whether an independent steelworks could produce anywhere near as cheaply as a well-sited works integrated with blast furnaces. Significantly there are only two non-integrated steelworks —Dalzell and Round Oak—on which the Report proposes to incur

[1] D. L. Burn, *op. cit.*, p. 442.

any considerable expense. In the case of Round Oak the proposed expenditure, though not quoted, must be considerable, since the present plant is nearly all obsolete and will need to be replaced. The Park Gate scheme is more modest, being merely for a new rod and bar mill (p. 22), though if it is to be a continuous mill the cost will be considerable. (If it is not to be a continuous mill it will merely add to the existing redundant capacity.) Park Gate is an integrated iron and steelworks, but, being located near Rotherham, is a long way from navigable water, and even farther from cheap Midland ore. Though noted, like Round Oak, for its able management, it is a small, badly sited and obsolescent plant and there is little excuse for spending money on it.

The moral to be drawn from the Steel Report is that new equipment, however up-to-date and expensive, is not the only criterion of an efficient industry. In 1953, if the Report has been implemented, about half the steel-making pig-iron capacity and nearly 40% of the steel-melting and -rolling capacity will be less than 7 years old and of the most advanced design, and even the older equipment will be the best now in existence. Yet much of the new equipment will have served to give still another lease of life to intrinsically uneconomic sites in the "Other Midland" and pseudo-coastal districts; little will have been done to correct and much to perpetuate the present lack of integration between successive processes; and only one-fifth of the steel capacity will be capable of efficient production from home ore.

The Report on Foundry Pig Iron

Perhaps the most interesting aspect of this short Report is that its authors, unlike the authors of the Steel Report, are not impressed by the advantages of coastal locations. On the contrary, we are told that the Midlands are well placed not only for the assembly of raw materials, but also for "distribution to the widely dispersed iron foundries of the country." There are, it is only fair to note, two minor exceptions to the general approval of Midland sites, the first a forecast of an increased demand for special irons made from imported ore (p. 44) and the second a caveat that it is uneconomic to supply the Scottish market with Midland pig (p. 43); but even so the Report's recommendations will leave in the Midlands at least three quarters of the total foundry iron capacity and will require the use of four times as much home as imported ore.

Though the Report rightly stresses the comparative advantages enjoyed by "the Midlands," the further advantage of being not

merely in the Midlands but right on the Midland Orefield receives little attention. The present mal-location of foundry iron furnaces in the Midlands is dismissed on p. 42, with the statement: "The original siting of the plants was influenced mainly by accessibility to raw materials, and, *whilst conditions in that respect have altered somewhat*, all plants are still reasonably well placed in this regard." In fact (excluding the Ford furnace, on a coastal site in Essex) more than half the foundry pig iron made in the district "Derby, Leicester, Notts, Northants, Essex" (p. 41) comes from furnaces in Derby and Notts, considerably to the north of the Jurassic iron belt (which runs through Oxford, Northampton, Leicester, Rutland and Lincolnshire). The "Lincolnshire" district is based directly on the Jurassic orefield, but the "Staffs., Shrops., Worcs., Warwick" district and the "South Yorkshire" district are again quite distant from the nearest source of cheap ore. Of the 1,743,700 tons of foundry iron produced in 1937 (p. 41), no less than 1,485,100 tons came from the Midland districts, but of the latter total probably half came from districts which, in discussing the Steel Report, we classified as "Other Midland."

Much of the Midland foundry iron capacity, both within and outside the Jurassic orefield, is reasonably up-to-date, and the Report wisely recommends only a limited expenditure for the present, "major developments" being deferred for consideration at a later date, and if possible integrated with the new iron and steelworks which the Steel Report recommends should be built in Northamptonshire (p. 43). If such an arrangement could be made, it would have great advantages; the new plant would be on a cheap source of ore, it could be made flexible as between foundry and steel-making pig iron, and the steelworks would provide a suitable outlet for coke oven gas, and thus enable full advantage to be taken of integrated coking facilities.

The amount of the "limited expenditure" in the Midlands and of the expenditure in Scotland is not stated, but both will be insignificant in relation to the expenditure recommended in the Steel Report. No mention is made of any expenditure on the N.E. Coast. The consequential increase in capacity will be about 150,000 tons a year, all in Scotland, representing less than 10% of the total U.K. output in 1937.

The Report on Ironfounding

The third and last Report begins with a 10-page general survey of the industry. First, the long-run requirement for iron

castings is estimated at 3·5 million tons a year (p. 50), compared with an annual output of about 2·5 millions throughout most of the war (only 2·2 millions in 1944)[1] and 3·3 millions in 1937 (p. 40). For this output will be needed the 1,875,000 tons of foundry iron provided for in the Foundry Iron Report (p. 41), and slightly more than the 500,000 tons of hematite pig iron provided for in the Steel Report (p. 11), together with appropriate quantities of scrap, coke and coal. The introductory survey concludes with a note on the overall labour position, undoubtedly the worst problem at present confronting the industry. At the very end of the Report there are three more pages of sketchy general notes, covering relations between firms, costing, statistics, research, foreign competition, export trade and relations with consuming industries.

Between the ten-page prologue and the three-page epilogue, thirteen Trade Associations each in its turn presents its credentials, gives its past output and its actual and planned capacity, protests that the latter will meet all requirements, complains of the labour shortage, and finally retires to make way for the next performer. This part of the Report, occupying no less than forty-three pages, provides a very weak foundation on which to base conclusions. The statistics, which are summarised in the table below, are particularly misleading. Thus the ag-

('000 tons)

Product-groups covered by each Trade Association.	Production in last accounting year prior to:			Present annual capacity of plant.
	Sept. 1938.	Sept. 1939.	Sept. 1945.	
A. Automobile and High Duty (p. 61)	105	108	114	160
B. Building and Domestic				
(i) Flushing Cisterns (p. 72)	9	8	4	10
(ii) Boilers and Radiators (p. 74)	73	72	40	79
(iii) Other (p. 66)	332	315	128	490
C. Cast Iron Pipes (p. 76)	514	458	87	600
D. Engineering and Jobbing				
(i) N.I.C. (p. 81)	162	149	128	206
(ii) N.I.E.F. (p. 84)	475	425	370	600
E. Ingot Moulds (p. 86)	228 *	250 *	250 *	310
F. Malleable				
(i) Tube Fittings (p. 93)	8	9	6	12
(ii) Other (p. 90)	53	45	48	73
G. Railway Equipment				
(i) Axleboxes (p. 96)	?	?	8	15
(ii) Chains (p. 97)	104	85	89	186
(iii) Segments (p. 99)	68	56	—	84
Total	2,131	1,980	1,272	2,825

* Estimated for calendar years.

[1] B.I.S.F. "Statistics" for 1939–44, Table 40.

gregate output of castings reported by the thirteen Associations is about 2 million tons annually in 1938 and 1939, and rather less than 1·3 million tons in 1945. These figures, however, are considerably less than the comprehensive totals quoted above of 3·3 million tons in 1937 and 2·2 million tons in 1944, which suggests that a large number of ironfounders do not belong to the thirteen Associations and have not provided information. This inference is supported by the combined capacity of the thirteen Associations being as low as 2·8 million tons a year (see Table), which the proposed expansions will increase to only 2·9 million tons, compared with the ultimate total capacity of 3·5 million tons advocated on page 50 of the Report.

Since the Report on Ironfounding is not one but thirteen largely unco-ordinated reports, it is a little difficult for the reader to decide what general questions the Report has attempted to answer, and whether there are any pertinent questions it has failed to ask. The present reviewer's own conclusion, for what it is worth, is that the Report, in marked contrast to its two companions, dismisses in silence most of the questions it should have attempted to answer. Thus :—

1. The question of location is admittedly raised (p. 49), but only to be instantly dismissed with the statement that "the present location of foundries, based on close proximity to that of their customers, is economically sound." This statement, apart from begging the question, is not true, so far as concerns proximity to customers, of the important and reputedly highly efficient Cast-Iron Pipe section, which is centred in a small number of large integrated plants in the North Midlands, although its customers are scattered throughout the whole country. Thus in one section of the industry the economies of scale and of proximity to raw materials appear to outweigh the resulting increase in the costs of distribution. Is this characteristic shared by no other section?

2. What advantages accrue from integrating iron founding with pig-iron production? At present such integration obtains in much of the Cast-Iron Pipe section, in some of the best capacity producing ingot moulds, and in the Ford foundry in Essex. In none of these plants does the economy result from the transfer of hot metal, since all the foundries use cold pig iron. There must be a minor economy in transport and handling, but the greatest economy is probably in fuel, through the triple integration of blast furnaces, coke ovens and iron foundry. If triple integration of this kind does result in a considerable saving of fuel, could it not be extended to any other sections of the industry?

3. To what extent is it technically practicable to transfer

pig iron in a molten condition from blast furnace to foundry? The need for very close control and for a large variety of specifications probably rules out this practice in the engineering and automobile sections of the industry, but is its application worthy of consideration only in the Ingot Mould Section? (p. 87).

4. What is the optimum size of a mechanised foundry for light repetition work? The sections of the industry in which mechanisation has already made headway—those making motor-car castings, malleable castings, cooking apparatus and equipment for central heating—are each largely in the hands of a small group of producers. Were mechanisation to be extended to such products as rainwater goods, baths, cisterns and builders' castings—all of which lend themselves to standardisation and quantity production—would this require a complete overhaul of the structure of these sections of the industry? If so, will the interests of the existing small producers be allowed to stand in the way of mechanisation? We are not given a straight answer, though "the exact degree of mechanisation varies with the sizes of the individual production units, either already accomplished or in early contemplation" (p. 67).

The Report on Ironfounding gives little information at considerable length, offers no plan of its own for the industry, and affords no adequate basis for deciding whether or not a plan is required.

Brian Tew

London.

OBITUARY

John Harold Clapham (1873–1946)

The sudden death of Sir John Clapham has been a hard, unexpected blow to his many friends and to all historians. Though seventy-two years of age, he was still in full vigour. He died after a few seconds' illness, in a railway carriage, coming back to Cambridge from London where he had been taking the chair at a meeting with his accustomed serenity and power. Since he published his *History of the Bank of England* in 1944, he had already written three-quarters of a one-volumed Economic History of England, which most fortunately he has left in a state to be completed for the benefit of innumerable teachers and students in the years to come. He had in fact no period of cessation from work or even of lessened powers. So his loss is acutely felt. He was not "the shade of that which once was great." He was still an integral part of our national activity.

Yet on a calm view I know no one of my contemporaries whose life was more fulfilled and whose personal achievement was more complete. He was still going on, but he had already passed the goal.

His lecturing and teaching, and his many administrative services, academic and public, would in themselves have been enough for a lesser man. But this prodigious worker took them in his stride, while he was at the same time producing books of the first order. He had little patience, perhaps too little, with academicians who find difficulty in producing books without leisure. His permanent fame will rest on his economic histories.

It is not easy to write Economic History well and readably. William Cunningham, who fifty years ago had the chief hand in founding the academic study which has since grown to such vast proportions, did not excel as a writer. Clapham did. And one reason why he so excelled was that the largeness of his culture and the breadth of his mind and sympathies enabled him to place Economic History in its real setting of actuality, as a part of the human life of each successive age, as social history. And he connected it with political and other circumstance, with administrative machinery and with the clash of parties, with the personalities of particular men (the successive Governors of the Bank of England and Chancellors of the Exchequer, for instance), and with the current thought and literature of the passing day, including even its novels and its poetry, which he loved and often most aptly quoted. He put Economic History in its true place in human history, and prevented it from becoming an arid and theoretical study apart. Others helped in that saving work—his friend Eileen Power, and Mr. and Mrs. Hammond with whom he was sometimes in courteous controversy. But Clapham's *Economic History of Modern Britain* towers up like a mountain in size and in rock-like solidity of structure, probably the greatest economic history ever written. He was influenced by ideas and he was open to emotions, but neither ideas nor emotions ever carried him away from facts. He always strove to subject economic history to the ultimate criterion of statistical fact, into which ideas and emotions must fit themselves. His three great volumes are there, and it is within their findings that thought and theory about our industrial revolution have henceforth very largely to move.

Closely akin to the intellectual characteristics of his work was his marked personality. He had the best qualities of the Englishman of the Northern type; commonsense, adherence

to fact, serenity that was never rattled, fairmindedness—call it if you will by the severer word "justice"—in all his dealings with men. At first contact he was a "formidable" man, with his giant frame and slightly rolling gait and large "Cromwellian" features (though he was not "temperamental" like Oliver). Kindness and affection lay close behind, and very often broke through, and were the more valued because they were always sincere, and were not scattered broadcast on undeservers. I always added thirty per cent. to any words of approval from that great Yorkshireman, as compared to the value of the same words from a polite and flattering southerner.

He was ever ready to go out of his way and work for those in distress, but he would never "spoil" anyone at the expense of others or of the public. These qualities made him, in the war of 1939–45, an ideal member of the local Conscientious Objectors' Tribunal, Chairman of the Cambridge Employment Committee, and of the Cambridge Refugee Committee, and finally Chairman of the national organisation of the Society for the Protection of Science and Learning, dealing with the cases of refugee scholars. Professor A. V. Hill, his Vice-Chairman in the latter capacity, writes—

> "Clapham's deep humanity and his faith in the dignity and worth of human personality and freedom found strong expression in this real and active concern of his last years. These qualities may not always have been so apparent as his strength of body, mind and character or his keeness of intellect, but they were a fundamental part of his nature, and no estimate of his work and influence could be accurate which disregarded the foundation they provided."

Such a man naturally had crowds of devoted friends, and an extremely happy family life. I knew him for more than half a century, and the world seems a less sure and trustworthy place now he is gone. In the storms through which we have passed—and are passing—his presence among us seemed to guarantee the fundamental sanity of mankind, and the continuance of our civilisation.

I have called Clapham a Yorkshireman, because he recalled in appearance his yeoman ancestors from the Ridings, about whom he loved to talk. But Lancashire had a share in him. His grandfather, Thomas Clapham, had been a Yorkshire farmer, but his own father, John, migrated to Manchester. The story of John Clapham senior is worth telling as an example of early Victorian "Self-help." In 1837, at the age of fifteen he left the

farm and walked to Bradford to look for a clerk's job. At the end of the day he had found nothing, but he saw in a jeweller's shop window that an apprentice was wanted. He went in and got the job, which included sweeping out the shop and sleeping under the counter. Here he learnt watch-making and developed the "jeweller's eye." Here also he was "converted" and became a Methodist. At the age of nineteen he went to Manchester by stage coach to be junior salesman in John Holland Co., and eventually rose to be head of the firm. He married Mary Jane Chambers, daughter of a smallware manufacturer of Manchester. Altogether a proper parentage for the historian of our industrial revolution.

So John Harold Clapham was born at Broughton, Salford, Manchester, on September 13, 1873, and his boyhood was spent at his father's house, The Hills, Prestwich, Manchester, then a pleasant region of broken ground, more rural than urban. He was brought up a Methodist, though in later years he became a Churchman at King's, where, like Milton, he delighted to hear

> "the pealing organ blow
> To the full voiced quire below."

A broadminded not very dogmatic Protestantism fitted in well with his character. He belonged to our generation that knew the Bible. I remember his delight over a French scientific historian who, in writing of the "Adullamites" of our political crisis of 1866, explained "allusion biblique: Adullam avait voulu tuer David."

As his school and College life were both spent at Cambridge, Cambridge may divide with the North the credit of producing him. He went to Leys School in 1887, where, besides his scholarly achievement, he was a leader in athletics. He was in the first team for Rugby football, captain in cricket and lacrosse, ran for the school and was second in the Public School quarter mile. He edited the school magazine and became Senior Prefect. He retained a great affection for the Leys and in later years became a Governor.

He went up to King's College in 1892 as a History Exhibitioner, became a Scholar in 1894 and in 1895 got his first in the small history tripos of that year, in which only twenty men and thirteen women were classed. But though the history school was still small, it was about to have a great expansion in which he took a part. Moreover there were in those days three great historians at Cambridge—Acton, Maitland and William Cunningham. The

three Cambridge teachers who most influenced Clapham's mind in these formative years were Acton, Cunningham and Alfred Marshall. He became equally interested in economics and in history.

His was indeed an all-round mind—" an orbed mind." In 1896 he became Lightfoot Scholar in Ecclesiastical History. In 1897 he won the Prince Consort Prize with an essay on *The Causes of the War of 1792* which was published. In 1898 he was elected a Fellow of King's.

At College he continued to play Rugby and cricket, but he found salvation as a mountaineer. Climbing at home and in the Alps was his passion for nearly forty years. This most strenuous of all forms of holiday kept him fit for his arduous and unceasing intellectual labours, and the harsh, delightful contact with nature at her roughest and grandest still further developed his character and his imaginative power.

After teaching for some years in the now rapidly expanding history school at Cambridge, he went to Leeds in 1902 as Economic Professor, at the instigation of Alfred Marshall. It was always one of Clapham's most characteristic sayings that young Cambridge dons ought to take Professorships in the newer Universities if they got the chance, to see something of the world outside the sheltered College life. They might hope to return to Cambridge and be all the more use there, and the less " donnish," as a result. It certainly happened to him.

He felt at home in the Yorkshire manufacturing towns, and made many friends among his fellow Yorkshiremen. He seized the opportunity to make a first-hand study of the wool trade. He enjoyed personal contact with business men, and was always interested in seeing mechanical and technical processes at work. In 1907 he produced his book on *The Woollen and Worsted Industries*. While he was Professor in Leeds, the Yorkshire College became Leeds University, and he took a large share in the reorganisation necessitated by this change. He was always a first-rate colleague and citizen, whether at Leeds or Cambridge or elsewhere, ever ready to shoulder burdens that required volunteers, and outspokenly impatient of those too nice to do their bit.[1]

While at Leeds he met and married Margaret, daughter of

[1] An instance of his readiness to shoulder heavy burdens for others is his joint editorship of the Cambridge Economic History. The war prevented the publication of more than the first volume (1940) and that was rendered possible only because he himself translated or rewrote several of the articles contributed by foreigners.

W. E. Green of Ross. It proved in every respect a perfect union. After they had returned to Cambridge, he bought a piece of freehold land on the edge of town and country, and on it built a house and planted a garden, both unpretentiously combining the *utile* with the *bellum*, and there his and Margaret's three daughters and one son grew up under ideal conditions of family life. It was always a pleasure to have an excuse to visit Storey's End, a secure fortress of friendship, good sense and truth.

The return to King's, Cambridge, took place in 1908. He came back as assistant tutor in History, in succession to Oscar Browning, and at once began to deliver the great series of lectures to freshmen on Economic History which went on till 1945. "Clapham's lectures" were famous, a prominent feature in the education that Cambridge offered to successive generations of undergraduates. He was an active member of the Faculty of History and of the Faculty of Economics. In his opinion, there ought to have been more history in the economic Tripos, which he considered too theoretical as an education by itself. He served long and well on The University Press Syndicate, for he loved the details of printing and publishing.

During the War of 1914–18 he was at the Board of Trade, and was given the C.B.E. for his war work. He became Tutor of King's in 1913 in succession to his grand old friend, William Macaulay; and he remained Tutor till 1928 when he became the first Professor of Economic History in Cambridge. In 1933 he became Vice-Provost of King's, from which office he retired in 1943. He enjoyed and valued to the last his close association with the College which he always served with unfailing loyalty and love. His portrait by Gunn, which pleased him well, now hangs in the hall, the place where he would most wish it to hang.

One of his now distinguished former pupils, Mr. G. C. Morris, writes of him :

> "He was a wonderful supervisor. He might so easily have seemed formidable, but, without a trace of patronage, one was put immediately at one's ease; and few men so obviously adult have been more tolerant of the callowness of the young. Most supervisions turned into delightful and far-ranging historical gossips. Of course the Olympian quality was always present and the immense technical learning, but he was no less liable to discuss the Savoy Operas, or the tactics and politics of the 1914 War, than the decay of villeinage. His knowledge of economic realities, and his long and wide experience of men and affairs, made his teaching singularly unacademic and alive.

> "Somehow his 'eye for country' was always coming in. After a visit to Palestine he would delight in telling how something he had noticed in the lie of the land had thrown light on one of Joab's campaigns. His verbal memory of the Bible and of a great deal else was quite astounding. 'Let me see,' he would say, 'how does it run?' And then would come a long and telling quotation. It might be Milton or Hobbes; it might be Dickens or a Wells scientific romance; very often it was Trollope and very often Housman. He knew much more poetry and there was much more poetry in him than many people realised."

In the last years of his life his eminent place among British historians was recognised. In 1940 he was chosen President of the British Academy, a national position which he filled with his large presence and wisdom until his death. In 1943 he was knighted, and became "Sir John" to all the world.

He was well fitted to represent England, because he was and he looked the most "English" of Englishmen, and yet he took a deep personal interest in the work and fortunes of foreign scholars. I have quoted above the testimony of Professor A. V. Hill to his work as Chairman of the Society for the Protection of Science and Learning during the recent war. After the war he was Chairman of the Committee of the International Congress of Historical Sciences, till the time of his death. Miss Jean McLachlan writes to me about his tenure of this post:

> "The first sign of reviving international academic co-operation was the resumption of the informal gatherings of English and French historians, which up till 1939 had been annual events. The meeting of September 1945 took place in London, and much of its success was due to the care which Sir John had so generously spent on the preparation, to his genuine and obvious interest in all its activities, and to his understanding and appreciation of the French point of view."

During all these years of College, University and public work, the great books and important articles had been pouring out in an ever more rapid and deepening stream. A full bibliography will be published in the next *Cambridge Historical Journal*. Here I will mention a few.

In 1912 he published *The Abbé Sieyès*, not one of his most important works, but illustrating how wide he cast the net of his historical understanding. His knowledge of the French Revolution and its characters enabled him to appreciate the greatness as well as the limitations of Carlyle's epic; he and I used to swop

quotations from it. Among Clapham's special favourites were the description of his own special subject of study :

> " With ineffable serenity sniffs great Sieyès, aloft, alone; his Constitution ye may babble over, ye may mar, but can by no possibility mend : is not polity a science he has exhausted ? "

Again the meeting of Robespierre and Danton :

> " With what terror of feminine hatred the poor seagreen formula looked at the monstrous colossal Reality, and grew greener to behold him :—the Reality, again, struggling to think no ill of the chief-product of the Revolution; yet feeling at bottom that such chief-product was little other than a chief windbag, blown large by popular air."

For Clapham had a strong sense of humour both about life and about history, which Carlyle satisfied.

A greater book than *Sieyès* and more in the central line of Clapham's work was *The Economic Development of France and Germany, 1815–1914*, published in 1921. Its massive learning illustrates not only his grasp of economic history, but his knowledge of foreign countries in many different aspects of their life, past and present.

This powerful excursus into the economic history of Europe prepared him for his *magnum opus*, undertaken with fully ripened powers, *The Economic History of Modern Britain*, of which the first volume (*The Early Railway Age, 1820–50*) was published in 1926; fitly dedicated to " the memory of Alfred Marshall and William Cunningham." Indeed no more completely and characteristically " Cambridge " product was ever published by the University Press. It is " monumental " in its weight of scholarship, yet it is alive with thought and is human on every page. Volume II (*Free Trade and Steel, 1850–86*) followed in 1932, and in 1938 volume III (*Machines and National Rivalries, 1887–1914, with an Epilogue, 1914–29*). On the completion of this great task he had definitely placed himself on the list of memorable English historians.

After that, the authorities of the Bank of England paid him the compliment of asking him to write the history of their great institution, placing their archives at his disposal. He greatly enjoyed his days at the Bank, and his lunches and personal contacts with the Directors and officers, and they had the highest regard and liking for him. The last paragraph of his Preface, dated November 23, 1943, may here be quoted :

"The writing of the book has all been done during war. The State asked only for fractions of my time. The Bank has had most of the rest. At black moments the work has been an anodyne; at all times a privilege and a pleasure. As this is not an official history I may perhaps be allowed to say that I have found the wartime atmosphere of Threadneedle Street tonic. A Frenchman would no doubt have expected to discover 'le flegme britannique' in the ascendant at the Bank of England: he would not have been disappointed."

In 1944 the Cambridge Press was enabled, in spite of war-time restrictions which made most publications so unseemly in appearance, to produce the two black-bound volumes in a form worthy of the finest publishing traditions. The story of the Bank runs from 1694 to 1914. Some day, when the years following 1914 have passed into history, another volume which Clapham prepared will, I believe, be forthcoming.

Such, in brief, is the story of this man, whose memory will live with his works, even after all those who knew and loved him have passed away.

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SIR CHARLES ADDIS (1861–1945)

THE death of Sir Charles Addis, in December 1945, has deprived the Council of the Royal Economic Society of one of its oldest and most honoured members. He joined the Council in 1914 and continued to take a living interest in the Society's affairs and to give it the benefit of his mature practical wisdom till old age precluded further active participation.

Charles Addis was a fine product of the Victorian age, a type of its virtues, yet able to surmount its prejudices and limitations. He made a typically Victorian start. Born in Edinburgh in 1861 (eleventh in a family of twelve children) he was proud of being a son of the manse. His father was one of the ministers who, for conscience' sake, seceded from the Assembly in 1843, and founded the Free Church of Scotland. His congregation loved him, but he was a stern parent. With a university career in view for Charles he subjected him when at school to a regime of hard work. When he was sixteen, Charles rebelled against this plan and obtained employment in a firm of merchants at Leith. When he was nineteen he obtained employment in the Hongkong and

Shanghai Bank. For three years he lived in London on a salary of £60 a year. He recalled that in those days his lunch would be a penny bun with a glass of water to make it swell.

He was transferred to Singapore. He had borrowed £100 from a relative, and within a year out East was able to repay it (with interest, which was returned).

He learned Chinese and was appointed at the age of twenty-five to Pekin to open a new branch of the Bank.

The Hongkong and Shanghai Bank was in a position to play a prominent part in international finance. Opportunities for the flotation of loans for China or Japan aroused the ambitions of rival issuing houses. Here Addis was able to play a leading part. In 1905 he was back in London as Chairman of the London Committee of the Bank, and he became one of the most distinguished personalities of the banking world. He soon came to be relied on as an adviser in public affairs, and the value of his services was recognised by a knighthood in 1913. (He became K.C.M.G. in 1920.)

He was a member of the Cunliffe Committee (1917–18), the recommendations of which shaped the country's monetary policy after the war, and he became a director of the Bank of England in 1918.

His experience of the East and his knowledge of monetary problems, especially in relation to silver, marked him as an obvious selection among the membership of the Committee of 1920 on Indian currency.

But at that time monetary problems were trespassing beyond the boundaries to which the simple nineteenth century had accustomed the world to limit them.

Addis, on becoming President of the Institute of Bankers (November, 1921), delivered an address in which he revealed something of his approach to these problems. He remained loyal to the return to the gold standard recommended by the Cunliffe Committee. Though he recognised the strain of the deflation then in progress, he would not countenance the devaluation urged by Professor Cassel. "An unlettered man, I never listen to the learned Dons who advocate this course, and suffer the charm and vivacity of their exposition, and realise my incompetence to make an adequate response, without feeling constrained to adjure them in the words of Oliver Cromwell to the General Assembly of the Kirk of Scotland, 'I beseech you, consider it possible you may be mistaken.'"

Like many others at the time, he clung to the pristine gold

parity because to devaluation, once admitted, he could see no finality. But Addis had a lively appreciation of the need for stability of the price level or of the purchasing power of money. And, when he attended the Genoa Conference in 1922 as a representative of the Bank of England, he had the opportunity of furthering proposals designed to reconcile the two aims of stabilisation of prices and the maintenance of the gold standard. The proposals were carried at the Conference, but never bore fruit. There soon followed a change of Government, and in the eyes of most of his fellow directors at the Bank of England such an innovation on the sacrosanct Victorian tradition could not be entertained. It is not possible for an individual director to direct the current of policy.

When the Bank for International Settlements was established in pursuance of the recommendations of the Young Committee on Reparations, Addis became Vice-Chairman. The conception of the Bank had awakened far-reaching hopes of international co-operation in monetary policy, and Addis, in an address delivered in December 1930, revealed his own view of its possibilities. He recurred to the menace of a falling price level to the world's credit structure, not *low* prices but *falling* prices, "the appreciation of gold with all its depressing effect on business confidence and business enterprise." If the directorate of the Bank for International Settlements will form "a clear conception of the real import of the task assigned to them, their cause will be not merely the preservation of credit, but also the preservation of peace." That Bank has followed the Genoa Resolutions into limbo, and perhaps Addis's aspirations could never have been realised through such an instrument. The world is being afforded just such another opportunity at the present time, but the prospect of its being used in the manner he urged seems deplorably remote. Not that his service in the Bank for International Settlements was lost in moonshine. "In this international milieu," writes a colleague, "he was easily the outstanding figure, whose leadership was accepted as a matter of course."

In 1935 illness for a time incapacitated him. He had a magnificent constitution and an indomitable will, and made a good recovery. The time for undertaking onerous public services was past, yet he retained remarkable vigour, both mental and physical, and even after suffering a stroke in March 1944, he retained many of his interests and his sense of humour.

Addis married in 1894. He always said he would have thirteen children, and he did. He attended Church every Sunday, and his

entrance with his wife and thirteen children would be quite an occasion. True to the Victorian age, he read prayers at eight every morning to the servants and the growing audience of children. They used to sing Grace before each meal, to the embarrassment sometimes of guests.

On his return from China he settled in a house on the top of Primrose Hill, and walked across Regent's Park to Oxford Circus every morning to take a bus to the City. He had enjoyed riding in China, and continued to ride two or three times a week before breakfast on Hampstead Heath.

When he retired from the Directorship of the Bank of England at the age of seventy, he realised a long-cherished wish by buying a house in the country, Woodside in Sussex, a lovely place with forty acres of beautiful grounds, which gave him unending pleasure.

He regretted that he had never been to the University, and he took care that his children should have this advantage if they desired (as most of them did). Yet he himself was a man of culture. He was fond of music and poetry, and loved reading aloud.

His gifts and his wide and varied experience of the world, combined with a freshness of outlook endowed him with a capacity for good talk. And his talk was adorned with a remarkable facility for quoting poetry.

Addis was the embodiment of the qualities of the great epoch into which he was born. His acute mind and capacity for affairs secured him the confidence of all. But, above all, he combined with these faculties a force and directness of character which gained not only the confidence but the admiration and affection of those who came to know him.

R. G. HAWTREY

London.

NICHOLAS MIRKOVICH (1915–1944)

THE friends of Nicholas Mirkovich in Great Britain and the United States have heard with the keenest regret the news of his death, which has reminded them again of the havoc wrought by totalitarian warfare in the ranks of the young men to whom we might hopefully have looked for the wise constructive activity so much needed, especially in countries such as Yugoslavia, which have been painfully struggling to escape from the effects of centuries of unenlightened foreign domination. Mirkovich was born

in 1915 in Jagodina (Serbia), and graduated at the University of Belgrade in law and economics. He was a frequent contributor to Yugoslav periodicals, and in 1937 became assistant editor of the *Yugoslav Economist*. He also wrote a number of articles for scientific periodicals in several foreign languages and published books (in Yugoslav) on *The Structure of World Trade* and *The Economics of Italian Fascism*, as well as a lengthy study of Yugoslav population developments and the problem of agrarian over-population, which appeared in the *Weltwirtschaftsliches Archiv* in July 1939.

Mirkovich went to the United States in 1939 to an appointment in the Economics Department of the University of California, where he specialised in the study of agricultural migration. In 1942 he became chief of the Yugoslav Office of Reconstruction and Economic Affairs in New York, and was responsible for a series of studies on the postwar economic problems of Yugoslavia. He subsequently enlisted in the United States Army, and was killed on May 2, 1944, " somewhere in Yugoslavia," while firing at a low-flying Nazi plane.

A. G. B. Fisher

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CURRENT TOPICS

The Annual Meeting of the Royal Economic Society was held at the London School of Economics on July 4th, 1946. Mr. R. G. Hawtrey, who, as announced in the last issue of the Economic Journal, had been elected *ad interim* to fill the vacancy in the office of President, referred to the great loss the Society had suffered by the death of Lord Keynes. A year ago, when we named Lord Keynes to be our President we had been full of hope for the future. For more than thirty years the Royal Economic Society had been accustomed to rely on his vivifying influence and far-sighted direction. The termination of his services in matters of immediate executive responsibility was to be compensated by the continuance of his wide guidance in the capacity of President. Nowhere would Lord Keynes be so sadly missed as in this Society. Among his interests there was none with which he identified himself more wholeheartedly. It offered scope to some of his dearest aspirations, and he devoted care and thought in unstinted measure to developing its possibilities and enlarging its opportunities. He had left us a fine

tradition not merely of accomplishment to be preserved but of progress to be continued.

The Society asked that its great debt to Lord Keynes be put on record and its sympathies conveyed to Lady Keynes.

The accounts of the Society for the year 1945 showed a surplus of income over expenditure, together with the receipts of compounders, of £3,109. The Secretary explained that this large excess was partly due to abnormal receipts from dividends and interest and partly to less than normal peace-time expenditure on the JOURNAL; with a return to four JOURNALS a year it would be greatly diminished.

He also explained the considerations which had led the Council to the decision that it would no longer be possible to distribute the London and Cambridge Economic Service without charge. Fellows who wished to receive the service on the conditions announced in the last issue of the JOURNAL were reminded that it would be necessary to apply to the London and Cambridge Economic Service, Houghton Street, Aldwych, W.C.2.

During 1945 the number of Fellows increased from 4,619 to 4,777 and was now higher than at any time in the history of the Society; there were 4,572 Fellows in 1939 and 694 in 1914. There had been 279 Fellows lost by death, resignations and default, and 437 new Fellows and Library Members elected.

Mr. Hawtrey was elected President for the ensuing year and delivered an Address on "The Need for Faith" that is printed on an earlier page of this issue.

Houblon-Norman Fund. The Trustees of the Houblon-Norman Fund, on the recommendation of the Advisory Committee, have made the following awards for 1946–7 :—

Fellowships.

R. F. HENDERSON, M.A., Research Student, University of Cambridge.	Financial limitations to investment by private firms and joint-stock companies.
C. T. SMITH, Ph.D., B.Sc., Assistant Master, Stratford Grammar School.	The External Relations of Insurance Companies.
W. E. TATE, Headmaster, Sneyd School, Burslem.	The Enclosure Movement of the Eighteenth Century (at Balliol College, Oxford).

P. J. WATKIN, B.A., Department of Agricultural Economics, Aberystwyth.	Financial Facilities for Industry in South Wales (at University College, Swansea).

Research Grants.

N. L. ARMSTRONG, Ph.D., B.Sc., B.Com. Bank official.	The Relative Efficiency of English Banking in different parts of the country during the Nineteenth Century.
P. S. SUMNER, M.Sc., B.A., Assistant Master, Worcester College for the Blind.	The Economics of the Stock Exchange and Company Finance.

An offer of awards for 1947–8 will be made early in 1947. Further information may be obtained from The Secretary, Houblon-Norman Fund, c/o The Bank of England, E.C.2.

A REPRINT of the article by the late Lord Keynes on *The Balance of Payments of the United States* will shortly be published by Messrs. Macmillan & Co., Ltd., price 1*s*.

RECENT PERIODICALS AND NEW BOOKS

Journal of the Royal Statistical Society.

VOL. CVIII. Parts III–IV, 1945. *The Fatality Rate of Measles :* W. BUTLER. *The Analysis of Market Demand :* R. STONE. *The Industrial Distribution of the Population of Great Britain in July, 1939 :* H. FRANKEL. *Wholesale Prices in 1944 :* EDITOR OF THE STATIST.

Economica.

MAY, 1946. *The Relation of Economic History to Economic Theory :* T. S. ASHTON. *Rural Population in England and Wales, 1911 and 1931 :* A. L. BOWLEY. *The Classical View of the Economic Problem :* HLA MYINT. *The Economics of Planting Density in Rubber Growing :* P. T. BAUER.

The Political Quarterly.

JULY–SEPTEMBER, 1946. *The Strengthening of the U.N. Charter :* A. CRANSTON. *The Japanese as Problem Children :* C. FISHER. *Consequences of Nationalizing the Bank of England :* R. F. HARROD. *Universities in the Colonies :* W. I. JENNINGS. *Educational Dilemma :* F. EVANS. *Tradition and Dissent :* H. J. LASKI.

The Eugenics Review.

APRIL, 1946. *The Trend of National Intelligence :* G. THOMSON. *Some Problems of Reproductive Physiology :* A. S. PARKES. *Positive Eugenics :* C. P. BLACKER. *An Investigation into Assortative Mating :* E. SLATER. *Courtship and Mating in an Urban Community :* MOYA WOODSIDE.

JULY, 1946. *Galton's Outlook on Religion :* C. P. BLACKER. *Population Trends in Palestine :* D. V. GLASS. *Education for Family Life :* C. BIBBY.

Bulletin of the Oxford University Institute of Statistics.

VOL. 8, NO. 5. MAY, 1946. *The Budget and Reconstruction :* T. STEINDL. *The National Income and Expenditure of the U.K. 1938–1945 :* D. G. CHAMPERNOWNE. *Earnings, Hours, and Mobility of Labour :* J. L. NICHOLSON.

VOL. 8 NO. 6. JUNE, 1946. *United Kingdom Export Target :* F. A. FRIDAY. *Low Cost Family Diets :* T. SHULZ. *Post-War Economic Prospects in the U.S.S.R. :* M. H. DOBB.

International Affairs.

JANUARY, 1946. *U.N.R.R.A.'s Work for Displaced Persons in Germany :* W. ARNOLD-FORSTER. *The Aims of the U.S.S.R. in Europe :* P. WINTERTON. *The Outlook in the U.S.S.R. :* A. WERTH. *The Reconstruction of Belgium :* C. DE VISSCHER. *The Vatican and International Diplomacy :* D. A. BINCHY. *Foreign Service Reorganization in the United Kingdom :* F. ASHTON-GWATKIN. *The Pan American System and the United Nations :* R. HUMPHREYS. *The Defence of India and Indo-British Obligations :* K. M. PANIKKAR. *The Kurdish Question :* W. G. ELPHINSTON. *International Case Law :* F. M. MANN.

APRIL, 1946. *The Control of External Affairs :* LORD HANKEY. *New Zealand in the World Economy :* L. WEBB. *France and International Economic Policy :* L. BAUDIN. *The British Commonwealth and Trusteeship :* H. D. HALL. *Guernsey under German Rule :* JURAT SIR JOHN LEALE. *The Breaking of the Axis :* ELIZABETH WISKEMANN. *The Danubian Satellites : A Survey of the Main Social and Political Factors in the Present Situation :* H. SETON-WATSON. *Some of the Problems Facing Persia :* A. K. S. LAMBTON.

The Banker.

JUNE, 1946. *Anglo-American Co-operation :* R. F. HARROD. *Britain's Balance of Payments :* T. BARNA. *Overseas Banking.*

JULY, 1946. *The Battle of Inflation. Can America Hold the Line? Annual Insurance Review.*

AUGUST, 1946. *The Loan and Bretton Woods. Economics of the "Indian Union" :* SIR THEODORE GREGORY.

The Bankers' Magazine.

MAY, 1946. *The Budget. The Problem of International Trade.*

JUNE, 1946. *A Year After. Educational Section.*

JULY, 1946. *Economic Consequences. Educational Section.*

AUGUST, 1946. *Monetary Conditions in Britain and America :* E. H. STERN. *The Prospect for Bank Advances :* H. G. HODDER.

Midland Bank Review.

MAY, 1946. *Three Aspects of Transition. The War Story of the Bank. Government and Business.*

Planning.

NO. 249. *Inside the Unions.*

NO. 250. *The Social Use of Sample Surveys.*

NO. 251. *Population—A Challenge and a Choice.*

NO. 252. *The Textile Machinery Industry.*

NO. 253. *Manpower Stocktaking.*

International Labour Review.

JANUARY–FEBRUARY, 1946. *27th Session of the International Labour Conference :* Paris, October–November, 1945. *Some Problems of Labour Law Enforcement in China :* T. K. DJANG.

League of Nations Monthly Bulletin of Statistics.

APRIL, 1946. *Bulgaria, Roumania, Poland : Economic, Financial and Vital Statistics (1938–1945).*

MAY, 1946. *War Casualties : British Empire, Canada, United States.*

JUNE, 1946. *War Casualties : Australia, New Zealand. Some New Life Tables.*

Fabian Quarterly.

NO. 50. JUNE, 1946. *The National Health Service Bill :* D. E. BUNBURY. *Building by Direct Labour :* E. J. COLE and T. H. JOYCE. *Miners' Welfare :* COALFACE.

The Canadian Journal of Economics and Political Science.

MAY, 1946. *The Canadian Constitution and the United Nations Charter :* H. F. ANGUS. *The Western Progressive Movement and Cabinet Domination :* W. L. MORTON. *Rate Control on Canadian Public Utilities :* A. W. CURRIE. *Appointment of Extra Senators under Section 26 of the British North America Act :* E. FORSEY.

The South African Journal of Economics.

MARCH, 1946. *Some Reflections on Full Employment :* SHEILA T. VAN DER HORST. *What's the Use of Economists? :* W. F. CRICK. *Fluctuations in Income Concentration :* J. DE V. GRAAFF. *Survey of the Income and Expenditure of Indian Employees of the Durban Corporation, Living at the Magazine Barracks, Durban :* V. S. NAIDOO.

Sankhyā (The Indian Journal of Statistics).

VOL. 7, PART 3. APRIL, 1946. *On the Linear Combination of Observations and the General Theory of Least Squares :* C. R. RAO. *Theories of Probability :* J. G. SINGH. *A Statistical Approach to the Problem of Chronology of Shakespeare's Plays :* M. R. YARDI. *Sample Surveys of Crop Yields in India :* P. C. MAHALANOBIS. *Sampling for Rice Yield in Bihar and Orissa :* J. A. HUBBACK. *Confounded Designs in Quasi-Latin Squares :* C. R. RAO. *Enumeration of Non-Isomorphic Solutions*

of Balanced Incomplete Block Designs: H. K. NANDI. *A Further Note on Non-Isomorphic Solutions of Incomplete Block Designs*: H. K. NANDI. *Impossibility of Symmetrical Incomplete Block Design with* $\lambda = 2, k = 7$: Q. M. HUSAIN.

The Quarterly Journal of Economics.

MAY, 1946. *Reparation Labour—a Preliminary Analysis*: P. FISHER. *Federal Reserve Policy in Transition*: C. R. WHITTLESEY. "*Ability to Pay*": B. W. DEMPSEY. *The Problem of Excessive Commercial Bank Earnings*: H. L. SELIGMAN. *The Supply of Labor to the Firm*: L. G. REYNOLDS. *Resource Conservation and Economic Stability*: S. v. WANTRUP.

The Annals of the American Academy of Political and Social Science.

MAY, 1946. *The Netherlands during German Occupation.*
JULY, 1946. *Making the United Nations Work.*

The Journal of Political Economy.

APRIL, 1946. *Neumann's and Morgenstern's New Approach to Static Economics*: J. MARSCHAK. *The First Twenty Years of the Bank of Spain, II*: E. J. HAMILTON. *Professor Knight and the Theory of Demand*: R. L. BISHOP. *Comment on Mr. Bishop's Article*: F. H. KNIGHT.

JUNE, 1946. *Experience under Intergovernmental Commodity Agreements, 1902–45*: J. S. DAVIS. *Some Economic Aspects of the Margarine Industry*: W. H. NICHOLLS. *Interest and Employment*: M. W. REDER. *Some Implications of Full-Employment Policy*: A. L. MEYERS. *The Flexibility of Income-Tax Yield under Averaging*: R. E. SLITOR.

The Review of Economic Statistics.

MAY, 1946. *Life, Liberty and the Pursuit of Happiness (1950 Model)*: SIR WILLIAM BEVERIDGE. *A Symposium on Fiscal and Monetary Policy*: MESSRS. MINTS, HANSEN, ELLIS, LERNER, KALECKI. *Debt Policy and Banking Policy*: H. C. SIMONS. *The Monetary Theory of Deficit Spending. A Comment on Dr. Clark Warburton's Article*: H. W. ARNDT. *A Reply*: C. WARBURTON. *Innovations and the Irregularity of Economic Cycles*: R. GOODWIN. *Gold Sales as an Anti-Inflationary Device*: R. F. MIKESELL.

Journal of the American Statistical Association.

MARCH, 1946. *The Advancing Statistical Front*: W. A. SHEWHART. *On the Design of a Sample for Dealers' Inventories*: W. E. DEMING and W. SIMMONS. *War-Time Aluminum Statistics*: M. D. GOLDSTEIN. *Historical Note on the Purchasing Power Concept, and Index Numbers*: W. F. FERGER. *A Method of Making Actuarial Estimates for a Compulsory Health Insurance System*: P. A. DODD. *Approximation of Chi-Square by "Probits" and by "Logits"*. J. BERKSON. *Sedley Anthony Cudmore, 1878–1945*: H. MARSHALL. *Statistical Methodology Index, No. 3*: O. K. BUROS. *Proceedings of the 105th Annual Meeting.*

The American Economic Review.

MARCH, 1946. *Law and Economics*: I. L. SHARFMAN. *National Budgets and National Policy*: J. MOSAK. *Psychological Analysis of Business Decisions and Expectations*: G. KATONA. *Shortcomings of Marginal Analysis for Wage-Employment Problems*: R. A. LESTER. *Note on Hick's Theory of Invention*: G. F. BLOOM. *Family Size and Residential Construction*: E. SCHIFF. *The Soviet Union's War Budgets*: T. A. SUMBERG.

MAY, 1946. *Papers and Proceedings of the Fifty-eighth Annual Meeting of the American Economic Association. The American Economy in the Interwar Period*: J. A. SCHUMPETER and A. SMITHIES. *The Changing Structure of the American Economy*: W. B. STEWART, R. B. HEFLEBOWER and L. H. SELTZER. *New Frontiers in Economic Thought*: F. H.

KNIGHT, C. E. AYRES and R. H. BLODGETT. *Monopoly and Competition :* G. P. COMER, C. D. EDWARDS and M. EZEKIEL. *Domestic and International Monetary Policies :* J. W. BELL. *Postwar Tax Policy :* H. M. GROVES, A. G. BUEHLER and B. RUML. *The Problem of " Full Employment " :* A. G. HART, A. R. SWEEZY and S. H. SLICHTER. *Postwar Labor Relations :* W. M. LEISERSON, J. MIRE and P. TAFT. *Recent Developments in Public Utility Regulation :* B. W. LEWIS, N. L. SMITH and J. C. BONBRIGHT. *Postwar Railroad Problems :* R. L. DEWEY, D. P. LOCKLIN and E. A. SMITH. *Postwar Shipping Policy :* H. S. PERRY, H. L. DEIMEL and D. MARX. *Economic Problems of Foreign Areas :* C. F. REMER, F. M. TAMAGNA, MARY E. MURPHY and C. B. HOOVER. *International Investment :* R. HINSHAW, H. B. LARY and A. I. BLOOMFIELD. *International Cartels :* B. F. HALEY, W. H. HAMILTON and R. P. TERRILL. *The Proposed Publication of a Periodic Review of Economics :* J. J. SPENGLER and EVELINE M. BURNS. *Economic Research :* E. G. NOURSE, S. NELSON and H. B. ROWE. *Economic Opinion and Public Policy :* J. W. BELL and E. J. WORKING. *Undergraduate Teaching of Economics :* MABEL NEWCOMER.

Econometrica.

APRIL, 1946. *Macro-economics and the Theory of Rational Behavior :* L. R. KLEIN. *Theory of the Firm and of Investment :* L. HURWICZ. *Capital Expansion, Rate of Growth, and Employment :* E. D. DOMAR. *Multiplier Effects of a Balanced Budget : Some Monetary Implications of Mr. Haavelmo's Paper :* G. HABERLER. *The Implication of a Lag for Mr. Haavelmo's Analysis :* R. M. GOODWIN. *Further Analysis :* E. E. HAGEN. *Reply :* T. HAAVELMO.

The Journal of Economic History.

SUPPLEMENT. DECEMBER, 1945. *The Tasks of Economic History.* Papers prepared for meetings of the Economic History Association. *In Search of a Business Class in Thirteenth-Century Genoa :* R. L. REYNOLDS. *The American Business Elite : A Collective Portrait :* C. W. MILLS. *Business History and Economic History :* A. H. COLE. *The Economics in a Business History* · T. C. COCHRAN. *Invention as a Factor in Economic History :* S. C. GILFILLAN. *Labour Policy and Economic History :* L. WOLMAN.

Journal of Farm Economics.

MAY, 1946, *International Price Control through Buffer Stocks :* O. ZAGLITS. *Production and Welfare Objectives for American Agriculture :* T. W. SCHULTZ. *The Economy of Small Farms in Wisconsin :* W. W. WILCOX. *Long-Time Adjustments in Forage Land Utilization in the Northeast Region :* V. L. HURLBURT. *Input-Output Relationships in Fattening Cattle :* A. G. NELSON. *The National Food Allotment Program :* R. SCHICKELE. *Economic Functions and Units in Farm Organization :* R. J. SMITH. *Benefits from Irrigation under Sub-Humid Conditions :* A. JOSS.

Review of Social Economy.

VOL. IV, NO. 1. 1946. *Papers and Proceedings of the Fourth Annual Meeting of the Catholic Economic Association. Ability to Pay :* B. W. DEMPSEY. *The Catholic Philosopher and the Catholic Economist :* C. F. DIRKSEN. *An Economist's Comment on Philosophico-Economic Relationships :* J. H. SHEEHAN. *A Philosopher's Comment on Catholic Philosophy and Catholic Economics :* B. L. MCAVOY. *The Principle of Solidarity in the Teachings of Rev. Henry Pesch, S.L. :* F. H. MUELLER. *The Economic Upheaval in the Pacific Basin :* B. F. LANDUYT. *Governmental Measures of Foreign Countries to Encourage Large Families :* W. TOBBE

La Revue Économique et Sociale

MAY, 1946. *Planisme, individualisme et entreprise publique :* M. BAZIRE. *L'Agriculture et la Planification :* F. HOUILLIER. *Rendements industriels comparés en France et a l'étranger :* A. ARMENGAUD. *Comment normaliser*

et rénover la distribution du crédit : P.-L. BÉZARD. *L'Abolition en Grande-Bretagne de la loi de* 1927 *sur les conflits ouvriers :* M. LA GIOTIÈRE.

JUNE, 1946. *La Fusion du capital et du travail dans la gestion des entreprises :* R. DUCOTÉ. *La Réforme administrative :* C. MELLAC. *Les Réformes agraires en Europe centrale et orientale :* B. GILLE. *Un Plan de développement économique du Maroc par l'extension de la coopération :* R. MOULIN.

De Economist.

JANUARY, 1946. *De taak der theoretische economie :* F. DE VRIES. An inaugural address at the University of Amsterdam, chiefly concerned with the nature of " theoretical economy " and its relation to reality. One line of criticism to-day is that " Economy " is a purely theoretical analysis, which cannot be refuted by an appeal to facts. The writer cites Marshall's dictum that theory is not " a body of concrete truth, but an engine for the discovery of concrete truth," and the corresponding observation of Keynes that it is "an apparatus of the mind, a technique of thinking "; but the consequences of this point of view have not been drawn. It is argued that while the ultimate end of Economics is to explain what happens, there comes a point where experience cannot help us, and Logic must accomplish the task. Facts themselves are silent. They give an answer only if we know the question to ask. Hence the need of a language, of economic concepts and categories. The function of " Economy " is to form economic concepts and define them, and the test of " Economy " is in its usefulness as an instrument for the treatment of economic questions. In its task the difficulties of theoretical economy are accentuated by the fact that there has always been previous discussion of economic questions, and that therefore it must use old terms with earlier associations. Also there is no purely economic group of phenomena; its material is mixed with the subject-matter of other sciences, with technical, juridical, psychological, ethical and political problems. (" Capital " and " costs " are taken as examples). Theoretical Economy thus plays the part of a servant (*een dienende Rol*); it is a part of economics, but it exists to serve those who are dealing with the treatment of concrete problems. But though " subservient," it is indispensable. How far does theoretical economy, as presented to-day, agree with this view? Theoretical Economy has tended to overstep these limits. From being a theoretical analysis it has sought to teach what in reality is, and what must happen. With a backward glance to Smith and Mill, the writer also points out that economists have also tended to occupy themselves with what is " natural," " normal," " ideal." Theory in the hands of many practitioners has thus been more than an analytic tool. The immediate task is a strict limitation of theoretical economy to its own terrain, to purify the " concept-apparatus " from the technical, political and other points of view. In this process many traditional doctrines must be got rid of. The vagueness of the " economic principle " is commented on. The conclusion is that theoretical economy is merely the analytic tool with which, without prejudice, we seek to solve economic problems of whatever kind they may be. *Uit de geschiedenis van Rijks vlottende schuld :* A. M. DE JONG. The first part of a history of the Netherlands Floating Debt during the period from 1841 to 1940, later to be published in book form.

FEBRUARY–MARCH, 1946. *Plaats en taak der verkeerseconomie :* P. KUIN. The economics of transport is a branch of economic science as a whole. Economics is defined as the " science concerned with striving for welfare as expressed in the life of society." The idea of welfare has recently been deepened and widened in various directions. The pursuit of optimum satisfaction involves (*a*) making the available means as efficient as possible; and (*b*) increasing the available means. How far the question of increasing the available means is a technical, how far it is an economic problem, is considered. For " transport-economics," the striving for welfare is also the starting-point and the driving force. It is suggested that there is room for a special branch of economics concerned with economics for three reasons: (i) it is a substantial

section of economic life, obviously capable of delimitation, with special technical means, related to the geographical milieu, and with outstanding influence on the development of production; (ii) it has special problems, a somewhat stormy development with a history of crises; its structure is such that a conscious transport policy, guided by authority, can alone give a solution; (iii) war conditions in most countries have led to economy in material and fuel, and imposed a rational use of the possibilities that remain; the problems arising call for systematic study. In the light of these, the task of the "transport-economist" is considered. *De vestigingsplaats en de intensiteitsverschillen van den tuinbouw:* W. J. SANGERS. A discussion of the location and variation of intensity of horticulture. Two questions arise here: (i) *where* the land should be used for horticulture; and (ii) how much of the factors of production, labour and capital, should be applied for the proposed production per unit of land. There are other questions, as *e.g.*, the location of particular branches of horticulture; what changes occur both in place and time. The discussion, which contains a wealth of illustrations regarding the distribution of horticulture in Holland, is based on J. B. Clark's five structural factors: needs, population, factors of production, technique and organisation. The theories of von Thünen are criticised, especially with reference to the influence of waterways in Holland. Improved transport is a more effective influence than formerly; also the impossibility of extensive cultivation near towns is more marked than it was. The influence of labour reserves for certain types of agriculture is emphasised. In the second part consideration is given to the factors that determine the intensity of cultivation. *Boscheigenaar en inkomstenbelasting:* L. J. SCHIETHART. A discussion of the application of the Dutch Income Tax to income arising from the ownership of forests and from forestry as an Industry, with suggestions for amendments.

APRIL, 1946. *De inhoud der verkeerseconomie:* P. KUIN. A lengthy review of the problems and content of the economics of transport. All economy is concerned with welfare, and the article classifies the discussion under (*a*) the welfare of the consumer; (*b*) of the transporters; (*c*) of the particular branch of transport; (*d*) of the transport system as a whole; and (*e*) of authority, as representing the public interest. Transport is intimately connected with Division of Labour, of which there are various aspects (specialisation, integration, etc.). But also "transport possibilities" influence division of labour (the extent of the market). Transport is related to the organisation of industry. A lengthy section deals with costs and rates. It is widely held (*a*) that the cost of each individual act of transport is extremely difficult to calculate; and (*b*) that once the system is functioning, each additional unit of transport costs little; so that nearly all costs are general costs, and most costs are "indirect." The author does not accept the theory of rates which is based on the idea of "joint costs." It confuses questions of cost and questions of price formation; also it fails to distinguish between different kinds of "joint costs." "Charging what the traffic will bear" is a question of price policy; it rests, not on the impossibility of determining cost, but on the possibility of differentiation. A distinction should be drawn between "real" and "unreal" joint costs, between common and combined costs. In the former case two products are inevitably produced together (gas and coke); in the latter there is a union of two products which might be kept separate, but they are combined for economic reasons. The doctrine that costs are constant is also criticised. All costs are variable; it is largely a question of tempo, and of stages. Costs which are relatively stable for a period may rise suddenly with a leap (doubling a line). In later sections attention is given to the questions of co-ordination of goods traffic and of passenger traffic. An account is given of the situation in the 'thirties, and of the forces impelling to co-ordination. Co-ordination is an attempt to restrict and normalise competition, suggestive of Kartel-formation. On the subject of co-ordination of rail and road passenger transport an account is given of Dutch legislation on the subject. The relation of the State to transport

is discussed; the happiest solution would be for the State to be owner; but for the administration to have a large measure of freedom. *De vakopleiding in de metaalnijverheid:* R. VAN MAANEN. A review of the present position in Holland with regard to education, training and apprenticeship in the Metal Industries.

MAY, 1946. *Over de grondslagen der economische wetenschap:* A. DE GRAAFF. A plea for the humanisation of economics. There are complaints that economics has lost touch with reality. If so, then, in the words of Morgenstern, economics becomes an intellectual plaything like chess. Valk is cited as an example of the view that theory fails because its premises are not in agreement with reality. These complaints are based, it is argued, on lack of theoretical insight and on insufficient knowledge. Two points in particular are ordinarily advanced in criticism: (*a*) the method of price-formation and (*b*) the assumption of the "economic man." On the first, the criticism is that prices are determined in fact not in accordance with economic theory, but by cartellisation and other authoritarian methods. The law of price-formation, however, merely establishes a tendency; but the tendencies established by the law of price-formation may manifest themselves less obviously or in another form, directly or indirectly. On another approach, experience shows that a Kartel can seldom fix and maintain prices which are withdrawn from the influence of the laws of price-formation. Neither of these criticisms of economics is valid. If economics has failed, and does not give our generation what it wants, the explanation lies elsewhere. A system of thought may become outmoded, not because of ascertained errors, but because of the varying importance men come to attach to the different facets of a subject. In this case the change springs not from external circumstances, but from within man, in his spiritual life and make-up. It is argued that there is a deep gulf between the spiritual and mental make-up of the 19th and 20th centuries. Current economic theory is subjective. The writer surveys recent tendencies in economics and finds that it has been becoming more and more detached from Man, and that there has been a strengthening of its mechanistic and mathematical character. Current theory arose in the 19th century, and reflects the mental build-up of that time. Changes in spiritual life since then have not been reflected in economics. Indeed in the way it has sought to meet its difficulties, the path taken by economics has been diametrically opposed to the development of the "spiritual make-up" (*geestesstructuur*). In opposition to concentration on "Man" elsewhere economics has sought a solution in a refinement of its mechanistic apparatus. This is the real source of complaints about the inadequacy of current theory: the opposition between the basic lines of spiritual thought in general and of economic thought. The way economics ought to go is sufficiently indicated: it is the path philosophy has taken. It should place man and his life in the centre of things. It should consider how man comes to act as he does, and what consequences his action has. *Differentiatie en integratie van het vervoer:* H. A. A. DE MELVERDA. War has shown the importance of transport in our economic life; but while other aspects of transport have been considered, insufficient attention has been devoted to the economics of transport. Further, transport-economics has been concerned chiefly with railways, but other branches are no less interesting. In all industries and enterprises, there are forces tending to link together, and forces tending to split up. Those that link together may result in parallelisation or integration (horizontal and vertical), according as they link together what is similar or dissimilar. So the forces tending to split up may split up into similar or dissimilar undertakings, giving rise to specialisation and differentiation. There are different types of differentiation and integration. The characteristic of differentiation is the creation of new markets; of integration, the disappearance of markets. In this framework, the article proceeds to a lengthy discussion of various forms of enterprise in transport, with special reference to the characteristics, origin and distinctive features of professional-carriers (common carriers)

and carriers of own-goods, and numerous intermediate transitional forms.

JUNE, 1946. *John Maynard Keynes :* J. B. KREUKNIET. An appreciation, and an estimate of the significance of Keynes in economic theory. But his influence has been still greater in the field of economic policy. *De Nederlandsche Hypotheekbanken in crisisen oorlogstijd :* TH. LIGTHART. An account of the history and the problems of mortgage banks in Holland since about 1933, during the years of crisis and the war.

Schweizerische Zeitschrift für Volkswirtschaft und Statistik.

APRIL, 1946. *Quelques aspects du problème des réparations allemandes :* H. LAUFENBURGER. *Les trente Demoiselles de Genève et les billets solidaires :* M. CRAMER. *Der Begriff der Wahrscheinlichkeit in Mathematik und Statistik :* H. WIESLER.

JUNE, 1946. *Georges Sorel :* W. A. JÖHR. *Bauernwirtschaft und Kollektiv :* C. VON DIETZE.

Moneda y Crédito (Madrid).

NO. 16. MARCH, 1946. *Las reparaciones de ayer y las de hoy :* J. RUEFF. *Las crisis de la industria eléctrica :* E. BECERRIL. *The Bank of England cumple 252 años :* R. CARANDE. *La crisis de la sociedad en el presente, del profesor Röpke :* R. SIEBERT. *La imposición de la rente en España :* J. SARDA.

El Trimestre Económico.

APRIL–JUNE, 1946. *El progreso económico de Mexico · problemas y soluciones :* V. L. URQUIDI. *La concepción técnica del ingreso gravable y nuestra ley del impuesto sobre la renta :* A. SERVIN. *La nueva ley monetaria y las reformas bancarias de Guatemala :* J. G. ROBLES. *Las finanzas públicas y el ingreso nacional :* R. O. MENA. *La deuda pública y el ingreso nacional de Estados Unidos ; II :* H. C. WALLICH. *Apuntes históricos sobre la moneda del Paraquay :* S. ZAVALA.

Ekonomisk Tidskrift.

MARCH, 1946. *Wages and Full Employment :* J. ÅKERMAN. Professor Åkerman criticises existing trade cycle theories as being more properly applicable to the long period than to analysing short period cumulative processes, because they give insufficient weight to the upward pressure of wages. He is particularly interested in Prof. Jørgen Petersen's theory (which does however give weight both to this factor, and to the degree of monopoly—the theory may be expressed : Level of employment = $k \cdot \frac{1}{T} \cdot \frac{1}{P} \cdot L$, where k equals the degree of monopoly, T the level of technique, P the price level and L the level of wages). Professor Åkerman develops a theory of what he calls the "wage strain factor" which he believes could be measured statistically. He holds that in order to control the level of activity it is as necessary to control the level of wages as the level of investment. *A Discussion of British Reconstruction Policy:* I. SVENNILSON. An interesting account of the prospects of British industry as seen by an exceptionally well informed foreigner, in the early spring of 1946. Prof. Svennilson emphasises the lack of flexibility in the British economy, the shortage of essential materials, and structural difficulties. He holds that the "model makers" seriously over-estimated the rise in productivity during the war (due to an insufficient realisation of structural difficulties). On the other hand, he believes that too little weight is given in British discussions, to Empire goodwill. *Company Profits and Bank Liquidity :* B. KRAGH. A criticism of Dr. A. Östlind's work on "The Swedish Economy, 1914–1922." In the first place Dr. Kragh considers that Dr. Östlind overstates the importance of profits as an element in price formation; secondly, he criticises the author's use of figures of small savings on the one hand, and of house construction on the other, as being subject to more influences than are allowed for. Similarly Dr. Kragh, while admitting the interest of Dr. Östlind's analysis of regional differences in the demand for bank loans,

thinks that he has unduly simplified the factors concerned, which are greatly complicated by regional institutional differences.

Index.

No. 168. June, 1946. *Economic Survey. March 15–June 15, 1946.* June, 1946. Supplement. *Sweden's Monetary and Fiscal Policy before and after the Second World War :* B. Kragh.

Økonomi og Politik.

January–March, 1946. *"De forenede Nationer" i Funktion. Sovjetruslands Landbrug. Folk og Diktatorer i Sydamerika. Priser og Lonninger under den 2den Verdenskrig. Iran og Stormagterne. Den økonomiske Udvikling i Danmark. Den internationale økonomiske Situation. Institutet for Historie og Samfundsøkonomi i 1945. Politisk Kronik.*

L'Égypte Contemporaine.

November–December, 1945. *The Future of World Trade :* P. Kanto Ovitz. *Le Commerce extérieur de l'Égypte pendant les deux guerres mondiales :* J. Schatz. *L'Intérêt pour une fraction de l'unité de temps (en arabe) :* R. A. Khalid.

NEW BOOKS.

British.

Allen (G. C.) and others. The Import Trade of the Port of Liverpool Future Prospects. Liverpool: University Press, 1946. 8″. Pp. 109. 6*s.*

[This small monograph by Prof. Allen and his colleagues in the Social Science Department of the University of Liverpool brings together an immense amount of material that will be especially valuable to those engaged in business in the Liverpool area. It seeks to answer the question "What is the probable level of imports into the Port of Liverpool during the post-war period?" Mr. D. J. Morgan begins with a study of the U.K.'s future import trade; Mr. Corlett follows with a discussion of the share of the Port of Liverpool in total imports; Mr. Corlett and Mr. Hyde analyse the trade in particular commodities; Prof. Allen himself deals with location of industry policy and the Port of Liverpool. Mr. Morgan's chapter is obviously of more than local interest and brings together a good deal of useful information about the future balance of payments, and about the marginal propensity to import. It is perhaps legitimate to ask whether it is safe to assume that the pre-war propensities will be substantially unchanged in view of the war-time developments in agriculture, the shift towards engineering and away from other industries (the import content of output per head is very different in different types of industries, and particularly high in textiles, where employment has fallen greatly), and the probable changes in the distribution of the national income under full-employment conditions.]

Batson (E.). The Poverty Line in Salisbury. University of Cape Town: School of Social Science and Social Administration, 1945. 8″. Pp. 26. 1*s.* 6*d.*

[A study of the standards in Salisbury, Southern Rhodesia, conducted by the Social Survey of Capetown in collaboration with the Salisbury Social Welfare Council. A Poverty Datum Line was first established on a basis applicable to all ethnic groups; it is interesting to note that Prof. Batson prefers to apply this single poverty line to all races, though he provides means to discount the poverty line where families are not living according to certain Western conventions. The poverty line established for Salisbury lies very close to that estimated for Cape Town; for a married couple with three children, for example, it is £140 for Salisbury as against £138 12*s.* for Cape Town.]

Bhargava (R. N.). Price Control and Rationing. Allahabad: Kitabistan, 1945. 8½″. Pp. 124. Rs. 4·8.

[This study of price control and rationing was written before the end of the war, and it inevitably has dated somewhat. But it still has an importance as a

statement both of the needs to ration in India and of the difficulties and obstacles to doing so.]

CARR (E. H.). The Twenty Years' Crisis, 1919–1939. London: Macmillan and Co., 1946. 8½". Pp. xii + 244. 10s. 6d.

[A second edition, virtually unchanged; the first edition was reviewed by Mr. A. L. Rowse in the ECONOMIC JOURNAL of April 1942.]

CHOKSEY (R. D.). Economic History of the Bombay Deccan and Karnatak (1818–1868). Poona: R. D. Choksey, 1945. 8½". Pp. 369. 16s.

[This economic history of the Deccan and Karnatak is based in large measure on the study of the official papers of the contemporary administrations, extracts from which are separately published in the volume noted below. Dr. Choksey has used this material to produce a study of the economic and administrative history of the period that is most interesting and readable. His chapter on the village communities and the condition of the people give an extraordinarily good and balanced account of the difficulties of the British administration and of its successes as well as its failure. Elphinstone in particular stands out as a man of great power and of great willingness to see merits in systems of Indian village rule which, for temporary and personal reasons, were criticised by his subordinates.]

CHOKSEY (R. D.). Period of Transition (1818–1826). Poona: R. D. Choksey, 1945. 8½". Pp. 243. 12s.

[This is an entrancing glimpse into a branch of Indian economic history which has hitherto been a closed book. It is built up of extracts from the Deccan Commissioner's Files—those of the Peshwar Daftar—for 1818–26. We see all the difficulties of the early administration in the difficult days after the collapse of Mahratta rule through the eyes of the officials grappling with the problems, and writing for their seniors or colleagues and with no eye to ultimate publication. The fields covered include land administration, taxation, currency, communications, and various special problems such as were presented by cotton, silk, opium, liquor and the like. What admirable minutes and reports those civil servants managed to write!]

COLE (MARGARET). The Rate for the Job. London: Fabian Society and Victor Gollancz, 1946. 8". Pp. 25. 1s.

[Mrs. Cole's pamphlet, as might be expected from the fact that it is based on the evidence of the Fabian Women's Group before the Royal Commission on Equal Pay, is mainly concerned in presenting the political case for equality.]

DASS (B.). The Social and Economic Ideas of Benoy Sarkar. Calcutta: Chuckervertty Chatterjee and Co., 1940. 9½". Pp. xix + 664 + viii. Rs. 12.

[This is a second edition of a volume of essays, first published in 1939, by various Indian authorities on the work of Benoy Sarkar, who was a leader of Indian thought in sociology and economics from almost the beginning of the century down to the outbreak of the war.]

DAVIES (LORD). The Seven Pillars of Peace. London: Longmans, Green, 1945. 7". Pp. vii + 149. 6s.

[This book, by a well-known "crusader in the field of international relationships," was published only in 1945, but was written during the war before the author's death in 1944. The seven pillars which will help us to build the Temple of Peace in the place of the Temple of Mars which has held the veneration of mankind through the centuries, are "morality, justice, freedom, collective force, democracy, federalism and education."]

DENNIS (F. H.). Electricity, Public or Private Monopoly? London: Victor Gollancz, 1945. 7". Pp. 143. 7s. 6d.

[This is a useful study of the relative merits of different forms of ownership and organisation in the electricity generating and supply industries by one who has considerable experience and knowledge of the industry as an electrical engineer.]

DERKSEN (J. B. D.). A System of National Book-Keeping. Illustrated by the experience of the Netherlands economy. Cambridge University Press, 1946. 9½″. Pp. 31. 5s.

[To be reviewed.]

DYMES (D. M. E.) (Ed.). Synthesis in Education. Malvern: Le Play House Press, 1946. 8″. Pp. 80. 5s.

[This is a collection of the addresses given at the Summer Conference organised by the Institute of Sociology in Cambridge in 1944. Addresses were given on synthesis in education in Oxford by Prof. Paton, in Cambridge by Prof. F. C. Bartlett, in the Scottish Universities by Prof. Thomson, in the English Universities by Prof. Victor Murray, in Wales by Mr. A. Pinsent, in the American Universities by Prof. Mumford, in Technical and Science Colleges by Mr. J. W. Bispham and in Schools of Education by Mr. J. A. Lauwerys.]

FIRTH (R.). Malay Fisherman; Their Peasant Economy. London: Kegan Paul, Trench, Trubner and Co., 1946. 9″. Pp. 354. 25s.

[To be reviewed.]

FOGARTY (M.). The Reform of Local Government Finance in England and Wales. London: Fabian Publications and Victor Gollancz, 1946. 8″. Pp. 40. 2s.

[Mr. Fogarty makes the now familiar case against local rates as a main basis for local government finance: that they fall too heavily on small incomes, that they hit the large family, that as a tax on housing they are inconsistent with a policy of improving housing, that they hit particular trades (despite de-rating) and in particular tourism, that they are inequitable as between different local authorities with different needs, and fail to provide a fair basis on which to distribute grants. He examines the alternatives: a flexible local income tax is impracticable and a further tax on enterprise is undesirable; a tax on site values would be inequitable; any considerable further transfer of services to central government is to be opposed. Mr. Fogarty advocates re-rating of industrial and other premises, while retaining the block grant, and the transfer to local authorities of various taxes of a local nature, such as those on entertainments and liquor licences. He would like to see increased use of municipal enterprise to relieve rates, for example municipal cinemas, public-houses and other entertainments. Rather curiously he has nothing to say about the possible effects on local finance of the present nationalisation proposals. He emphasises the importance of solving the valuation problem, and recommends a standing advisory committee on taxation.]

FOX (W. SHERWOOD) (Ed.). Letters of William Davies. Toronto, 1854–1861. University of Toronto Press, 1945. 9″. Pp. xiii + 144. $2·00.

[To be reviewed.]

GILPIN (A. C.). India's Sterling Balances. London: Fabian Publications and Victor Gollancz, 1946. 8″. Pp. 19. 6d.

[This very provocative and contentious pamphlet takes the line that, cost what it may to Britain, the sterling balances which India has acquired during the war must be repaid in full. It rehearses, quite rightly, the history of the financial agreement with India for the division of war expenditure. But it makes no reference to the background in which that agreement was reached in the early months of the war, nor to the changes, never adequately reflected in any revision of the agreement, when the Japanese invasion reached the frontiers of India, and operations in Burma became a very large and expensive part of the war. Mr. Gilpin makes clear that he appreciates the important distinction between the immediate real costs of the war, and the ultimate financial division. Inevitably a large part of the real costs of the Eastern campaigns were borne by India, in the sense that shortages involved an immediate, and in many cases very severe, reduction in the standard of life. It is quite legitimate to recognise this, to deplore the grave effects of the war on India, but yet to be very far from convinced that it is right that the sufferings in India during the war should be recompensed, were that possible, by an indemnity from ourselves to India.]

HAWTREY (R. G.). Economic Rebirth. The dangers and difficulties of the post-war economic situation explained in straightforward language. London: Longmans, Green, 1946. 7½″. Pp. 161. 5*s.*

[To be reviewed.]

KARVE (D. G.). The Indian Economic Conference. 28th Annual Session, Lahore. Towards Progress in Economics. Poona: Aryabhushan Press, 1946. 9½″. Pp. 34.

[This study of the progress of economics was Professor Karve's Presidential Address to the Indian Economic Conference. He deals mainly with the problems of the proper scope of economics, and pleads for its wider extension rather than the narrowing by exclusion of anything related to value judgments which has recently been noticeable. He argues that economics must deal with policy as well as with causation and measurement, and that the great economists have been concerned with the real active problems of their times. He sees a growth of Indian economics as Indian policy becomes increasingly a matter of Indian control.]

KENDALL (M. G.). Contributions to the Study of Oscillatory Time-Series. London: Cambridge University Press, 1946. 9½″. Pp. 76. 7*s.* 6*d.*

[To be reviewed.]

LUETKENS (CHARLOTTE). Women and a New Society. London: Nicholson and Watson, 1946. 8½″. Pp. 128. 6*s.*

[An interesting discussion of the always changing pattern of women's lives since the industrial revolution; and of the problems that face them and of the adjustments they must make if they are to attain fulfilment in the present-day world. As with all the volumes in this series, The New Democracy, the book is freely illustrated with photographs and pictorial charts in colour designed by the Isotype Institute.]

LYND (HELEN M.). England in the Eighteen-Eighties. Toward a Social Basis for Freedom. London: Oxford University Press, 1945. 8½″. Pp. viii + 508. 21*s.*

[To be reviewed.]

MANTOUX (E.). The Carthaginian Peace—Or The Economic Consequences of Mr. Keynes. London: Oxford University Press, 1946. 9″. Pp. xvii + 210. 12*s.* 6*d.*

[To be reviewed.]

MAXTON (J. P.). The Control of Husbandry. A discussion of the future of the War Agricultural Executive Committees. London: Oxford University Press, 1946. 9″. Pp. 47. 3*s.* 6*d.*

[To be reviewed.]

MCGREGOR (A. G.). Collective Bargaining and Decadence. The Solution of Britain's Gravest Problem. London: Isaac Pitman, 1946. 7″. Pp. 79. 5*s.*

[Mr. Grant McGregor argues that "great advance has been made in ability to produce without corresponding advance in ability to properly distribute and enjoy the plenty that can be produced. Until consuming power is kept in step with ever-rising producing power the hold-up in the advance of civilisation must continue. Our potential producing power in the main has been achieved by free enterprise . . . [but because free enterprise was not matched by adequate consuming power] socialism blossomed forth with its plans to socialise industry and stifle the profit motive. . . . To lose advantages which free enterprise has demonstrated in the past would be to leave open the road to decadence." To combine the virtues of free enterprise and adequate consuming power the author recommends a Clearing House Exchange plan, giving each country an exchange rate in terms of "Internationals" which would keep its imports and exports in balance.]

Money and Banking. London: Joint Council of Monetary and Economic Research, 1945. 8½″. Pp. 33. 1*s*. 6*d*.

[This pamphlet, produced by Engineers' Study Group on Economics, provides a clear account of the machinery of deposit banking. But, since it eschews any examination of the real sources of saving, the realities behind the machinery scarcely appear. For this reason the short notes on the financing of the two wars and the crisis of 1931 do not go below the surface.]

PIGOU (A. C.). Income. An Introduction to Economics. London: Macmillan, 1946. 7½″. Pp. vii + 117. 5*s*.

[Reviewed in this issue.]

RACIAL RELATIONS. Studies in Conflict and Co-operation. No. 1. 1945. No. 2, 1946. Malvern: Le Play House Press. 8″. Pp. 8. 6*d*,

[These two pamphlets are published by the Racial Relations Group, which is an independent group associated with the Institute of Sociology. No. 1 is *The Jewish Problem* by W. W. Simpson; and No. 2 is *The Relations of White People and Coloured People in Great Britain* by K. L. Little.]

RAMASWAMY (T. N.). Economic Stabilisation of Indian Agriculture. Benares: Nand Kishore, 1946. 8½″. Pp. xxx + 176. 12*s*. 6*d*.

[This book is best described as the political economy of Indian agriculture. Whereas Mr. Tarlok Singh's book, noted below, is mainly concerned with the technical and managerial problems of improving Indian agricultural standards, this book deals mainly with the question whether Indian agriculture can flourish within a competitive *laissez-faire* framework. The author's answer is a very dogmatic "No."]

ROCHE (J. de la) and GOTTMANN (J.). La Fédération Française. Contacts et civilisations d'outre-mer. Montreal: Éditions de l'Arbre, 1945. 8″. Pp. 642. $4.00.

[To be reviewed.]

RONIMOIS (H. E.). Russia's Foreign Trade and the Baltic Sea. London: Boreas Publishing Co., 1946. 7″. Pp. 51. 2*s*. 9*d*.

[This pamphlet is a "short and preliminary summary of a more extensive study dealing with the Economic Relations of Eastern Europe and the so-called Middle Zone." It traces the reasons for the gradual shifting of Russian Trade from the Baltic to the Black Sea and the Dardanelles.]

ROWSE (A. L.). The Use of History. London: English Universities Press Ltd., 1946. 7″. Pp. xi + 246. 4*s*. 6*d*.

[Mr. Rowse's lively and stimulating book ought to be put into the hands of all those students who, thinking of economics too exclusively as a scientific methodology, want to know why they should be asked to read some economic history. There are half a dozen good pages on economic history. Mr. Rowse is at his best on how to read history, how to make your own eyes and your own knowledge of things, places, people supplement what comes from the books, and how to use books themselves to supplement these other things. In short, Mr. Rowse tries to make his would-be historians learn from the beginning what everyone who lectures learns for himself: that knowledge and understanding begin when you tackle something from the angle of "What is the truth about this?" and when you learn to treat your books, not as authorities, but as collaborators in the great task of searching for truth.]

SILVERMAN (H. A.) (Ed.). Studies in Industrial Organization. London: Methuen and Co., 1946. 8½″. Pp. xvii + 362. 20*s*.

[To be reviewed.]

SINGH (T.). Poverty and Social Change. A study in the reorganisation of Indian rural society. Bombay and London: Longmans, Green, 1945. 7″. Pp. 200. 6*s*.

[This small study of the problems of agricultural reorganisation in India, written in a private capacity by a member of the I.C.S. who is obviously familiar with the full detail and difficulties of the problems of which he is writing, deserves

the attention of all who are interested in the future economic development of India. The main problem, as the author sees it, is overpopulation of the villages combined with insufficiency of agricultural output. "The essence of efficient farming consists in combining four separate factors in each farm, namely: (1) an area sufficient for effective operation; (2) organisation; (3) capital, and (4) technique at a level which, in given conditions, yields the greatest economies." For the first objective, a large increase of the unit of management and cultivation is necessary. Consolidation, as at present practised, has given solid results, but is very slow to work and is reversed by division of holdings at death. Mr. Tarlok Singh suggests that the village be taken as the unit of management, while retaining the principles of ownership, or permanent tenancy, and land inheritance; "those who cultivate will share the reward due to labour and those who own will receive an ownership dividend." He works out, within such a system the size and methods of allotment of work units, the manpower requirements and the manpower surplus to be absorbed into new forms of production, many of which might be developed within the village community itself.]

VAKIL (C. N.) and ANJARIA (J. J.). The Future of the Rupee. Bombay: Popular Book Depot, 1945. 8½″. Pp. 39. Rs. 1.4.

[This most interesting survey of the various factors making for a higher or a lower level of the rupee reaches no final conclusion either as to the appropriate short or long-term rate in view of the very many uncertainties. The authors argue, however, the need for an autonomous rupee, which will allow the internal price and cost structure to reach its own level without pressure from external factors through the exchange rate. In particular they find it hard to foresee the full financial implications of large-scale planning to raise the Indian standard of life.]

WILSON (T.). Fluctuations in Income and Employment. London: Isaac Pitman, 1945. 8½″. Pp. x + 213. 18*s*.

[A second, unchanged, edition of a book which was reviewed by Mrs. Robinson in the ECONOMIC JOURNAL of December, 1942.]

ZWALF (M.). European Transport. The Way to Unity. London: Fabian Publications and Victor Gollancz, 1946. 8½″. Pp. 39. 2*s*.

[Mr. Zwalf considers the outlook for European transport quite hopeless unless we take the revolutionary step of re-organising it on a European scale. This he deems very unlikely in face of what has always been the chief obstacle to it—national sovereignty.]

American.

ABBOTT (C. A.). Financing Business during the Transition. New York and London: McGraw-Hill Book Company, 1946. 9″. Pp. xii + 133. 9*s*.

[To an English reader this study is interesting as much for what it does not deal with as for what it does. The main emphasis is on the aspects of long-term finance which will be particularly important in the transition from war to peace, on the importance once more of improving the capital market organisation, of filling the familiar gap in the provision of long-term capital to small and medium-sized businesses, of increasing the flexibility, both geographical and industrial, of the flow of funds seeking investment, and so on. In comparison with these problems, and those of providing capital for the new businesses likely to be set up through normal growth, relatively little importance would appear to be attached to the problem of financing the filling of the civil pipe line, by turning over firms from government work, partly financed here by progress payments, to ordinary civil production, with the attendant problems of re-establishing the normal peace-time levels of work in progress and stocks in process of distribution. It may be that, having regard to American methods of financing war production, the problem is not so vital or difficult in the U.S.A. Nevertheless a reader may perhaps wonder whether a technique of study which is based principally on a comparison of the needs for finance before and after the transition may not fail to elucidate some of the actual problems of movement.]

Agriculture in an Expanding Economy. New York: Committee for Economic Development, 1945. 11″. Pp. 45.

[The war has contracted manpower in U.S. agriculture by about 16%, despite the increase of total output by a fourth. Demand is likely to drop heavily

when the relief period is over. Though the fall of prices and incomes may be less precipitate than after 1918, it is likely to cause widespread and serious difficulties. Dairying, meat, fruit and vegetables may do well with high consumer purchasing power, but wheat and cotton are likely to present special problems. This paper studies what can be done. The methods considered are those which might increase internal consumption, increase exports, increase labour mobility, lessen insecurity of income by price fixing, subsidy and the like.]

BAIN (J. S.). The Economics of the Pacific Coast Petroleum Industry. Part 2. Price Behavior and Competition. Berkeley and Los Angeles: University of California Press, 1945. 9″. Pp. xv + 438. $6.00.

[The second volume of a three volume study conducted by the Bureau of Business and Economic Research of the University of California. This volume deals with price behaviour and competition, and covers such problems as production and sales, the markets, transportation, the price structure both for crude and refined products, and the financial results of the price policies.]

BISHOP (H. P.). Retail Marketing of Furnace Oil. Harvard University: Graduate School of Business Administration, 1946. 9″. Pp. 42. 50 cents.

[A detailed and statistical case study for the Harvard Graduate School of Business Administration.]

BURNS (A. F.). Economic Research and the Keynesian Thinking of our Times. New York: National Bureau of Economic Research, 1946. 9″. Pp. 69.

[Dr. A. F. Burns, who has succeeded Wesley Mitchell as Director of Research, contributes to this Annual Report of the National Bureau of Economic Research a most interesting study of the research problems raised by Keynesian thinking; he rightly emphasises that the best means of tackling them is not by strengthening pure trade cycle research, but by strengthening all relevant statistical investigations, while giving them the necessary twist in the directions that will throw light on employment problems.]

BURNS (E. J.). Some Financial Trends of Commercial Banks of Philadelphia, Pennsylvania, 1915–1941. Washington, D.C.: Catholic University of America Press, 1945. 9″. Pp. x + 122.

[A Ph.D. dissertation of the Catholic University of America.]

CLOUGH (S. B.). A Century of American Life Insurance. A History of the Mutual Life Insurance Company of New York, 1843–1943. New York: Columbia University Press (Oxford University Press), 1946. 9″. Pp. xiii + 402. 30s.

[This is a history of an insurance company—the Mutual Life Insurance Company of New York—written by a professional economic historian at the request of the company after a century of its operations. It deals, over the earlier years, with the growth of life insurance and the evolution of the contract; with mortality tables, premiums, reserves and dividends; selecting risks and market policies; investments and management. In the later stages we see the developments of the company's method in all these respects, and the growth of new problems of investment, management and the like. This history will be of interest to all who are concerned with problems of insurance.]

CRUM (W. L.) and SCHUMPETER (J. A.). Rudimentary Mathematics for Economists and Statisticians. New York and London: McGraw-Hill, 1946. 8″. Pp. ix + 183. $2.50.

[To be reviewed.]

FINNEY (KATHERINE). History of Mutual Savings Banks in Northampton, Massachusetts. New York: King's Crown Press (Oxford University Press), 1946. 8½″. Pp. 225. 16s. 6d.

[This study sought to examine the variations in interest rates and their effects on the volume and fields of investment in a small city that is believed to be typical of a great part of the American economy.]

GROVES (H. M.). Postwar Taxation and Economic Progress. New York and London: McGraw-Hill Book Company, 1946. 8½″. Pp. xiv + 432. 22*s*. 6*d*.

[To be reviewed.]

HANSEN (A. H.). Fiscal Policy for Full Employment. New York University: Institute on Postwar Reconstruction, 1946. 8″. Pp. 23. 25 cents.

[Dr. Hansen discusses principally the rôle of public outlays in the modern economy. He shows how state expenditure creates incomes, either directly by paying incomes for services provided, or by subsidising ordinary consumer expenditure or investment in one way or another. He next considers how far particular methods of financing a budget are inflationary or deflationary, and the proper balance between the two. Finally he deals with the problem of managing the national debt.]

HAYNES (W.). American Chemical Industry. Vol. II. The World War I Period: 1912–1922. Pp. xliii + 440. Vol. III. The World War I Period: 1912–1922. Pp. xv + 606. New York: D. van Nostrand Company, 1945. 9½″.

[These are the second and third volumes of the history of the American Chemical Industry in the first world war. They cover the period 1912 to 1922. The first of these two volumes deals partly with the general background—Wilsonian policy, the tariff depression, the trend towards war and its effect on the industry, and finally the process of gearing the industry to war; the second half of the same volume deals with the critical materials—principally nitrogen, the coal by-products, potash, phosphate rock, pyrites and certain drugs. The second volume continues the story of particular products; each main product is dealt with in turn with a great deal of history both of personalities and firms interspersed.]

KINGSBURY (LAURA M.). The Economics of Housing as presented by Economists, Appraisers, and other Evaluating Groups. New York: King's Crown Press (Oxford University Press), 1946. 9″. Pp. 177. 16*s*. 6*d*.

[Reviewed in this issue.]

Labor in the Philippine Economy. California: Stanford University Press (Oxford University Press), 1945. 8½″. Pp. xv + 97. 12*s*.

[The author of this study of the labour problem in the Philippine Islands was until recently Research Economist for the United States Government, and was at one time on the staff of the Department of Economics of the University of the Philippines. He considers the nature of the Philippine Labour Problem, the Social Justice Programme, the objectives of industrialization, the conditions of labour and the labour movement.]

McDIARMID (O. J.). Commercial Policy in the Canadian Economy. Cambridge, Mass.: Harvard University Press (Oxford University Press), 1946. 8″. Pp. xii + 397. 25*s*. 6*d*.

[To be reviewed.]

MEHR (R. I.). Mortgage Foreclosures and Property Management by Life Insurance Companies. Philadelphia: University of Pennsylvania, 1944. 9″. Pp. 124.

[A doctorate thesis of the University of Pennsylvania.]

MENDERSHAUSEN (H.). Changes in Income Distribution during the Great Depression. New York: National Bureau of Economic Research, 1946. 9½″. Pp. xviii + 173. $2.50.

[Reviewed in this issue.]

MERIAM (L.). Relief and Social Security. Washington, D.C.: Brookings Institution, 1946. 9″. Pp. xx + 912. $5.00.

[To be reviewed.]

NIEBYL (K. H.). Studies in the Classical Theories of Money. New York: Columbia University Press (Oxford University Press), 1946. 8½″. Pp. xii + 190. 16*s*. 6*d*.

[To be reviewed.]

PIERSON (J. H. G.). Full Employment in Practice. New York University: Institute on Postwar Reconstruction, 1946. 8″. Pp. 26. 25 cents.

[Dr. Pierson tries to see how full employment—by which he means permanent, continuing and assured full employment—might work in practice in the U.S.A. In terms of administrative practice Dr. Pierson would like to see Congress presented with an economic survey which would show the optimum employment and personal income; the President would recommend a certain volume of government expenditure; he would recommend that commerce expenditure be under-written at a level appropriate to the government expenditure; Congress would adjust these two in the light of its decisions on government expenditure; it would set minimum and maximum limits for commerce expenditure; it would approve specific measures to be used to maintain expenditure and employment; it would make the necessary appropriations for supplementary public works and for supplements to commerce incomes by deficit budgeting and the like.]

Planning Pamphlets. No. 50. 25 cents. Nos. 51–52. 50 cents. Washington, D.C.: National Planning Association, 1946. 7½″. Pp. 26.

[The latest additions to this series are as follows: No. 50. *International Economic Collaboration*; this has been prepared by the N P.A. Committee on International Policy and deals with such issues as the functions of the Economic and Social Council of U.N.O., the specialised agencies under it, the effects upon international problems of developments in the natural and social sciences, the need for a positive concept of world economic development. No. 51–52 sets out for the U.S.A. a *National Policy for Aviation*; it is, apart from an introductory statement by the Trustees, a report of the N.P.A. Advisory Committee on the aircraft industry, based on a draft by Mr. E. M. Weld; it covers both military and civil aviation, though the latter is in fuller detail, and relates manufacture to use; it deals not only with commercial operation, but also with the wider questions of the scale of the manufacturing industry in relation to defence, export policies and markets, the rôle of government in export, the disposal of surpluses both of aircraft and plants.]

Proceedings of the National Conference of Social Work. Selected Papers Seventy-Second Annual Meeting 1945. New York: Columbia University Press for the National Conference of Social Work (Oxford University Press), 1945. 9″. Pp. x + 407. 33*s*. 6*d*.

[This book comprises a selection of the papers prepared for the seventy-second annual meeting of the National Conference of Social Workers. Though the meeting did not in fact take place, owing to the request of the Office of Defense Transportation for the cancellation of all large gatherings, the papers were made available to 139 local meetings. Some 40 papers are included, covering many different branches of social work.

SONNE (H. C.). Democratic Planning in Action. New York: Sanders Printing Company, 1946. 7½″. Pp. 23.

[This is a brief, popular account of the work of the National Planning Association.]

STIGLER (G. J.). Domestic Servants in the United States, 1900–1940. New York: National Bureau of Economic Research, 1946. 50 cents.

[A study of the numbers, racial composition, wages and hours of servants, and the factors, such as family and household patterns, which have affected them. The geographical distribution of servants per 1000 families is itself of great interest—highest, as might be expected, in the South and East, lowest in the Middle West, with local high spots in California and Arizona. Earnings follow inversely more or less the same pattern.]

Studies in Income and Wealth. Vol. 8. New York: National Bureau of Economic Research, 1946. 9½″. Pp. xiv + 297. $3.00.

[To be reviewed.]

SWANSON (E. W.) and SCHMIDT (E. P.). Economic Stagnation or Progress. New York and London: McGraw-Hill, 1946. 8½″. Pp. 205. 15*s*.

[To be reviewed.]

TAYLOR (A. E.) Foreign Trade and Full Employment. New York University: Institute on Postwar Reconstruction, 1946. 8″. Pp. 20. 25 cents.

[Dr Amos Taylor discusses in elementary terms the relation of foreign trade to full employment. He is not a dogmatic adherent of the view that a large favourable balance is necessary to U.S. prosperity, since he sees considerable opportunities for home investments. He argues that the best trade is "self-sustaining" in the sense that it benefits both parties and is continued willingly by both.]

Toward Peace and Equity. Recommendations of the American Jewish Committee. New York: American Jewish Committee, 1946. 10½″. Pp. xiii + 152.

[These are the recommendations of the Committee on Peace Problems of the American Jewish Committee. The six main subjects covered by this report are: Protection of human rights, Restoration of rights, Repatriation, Migration, Palestine and Proposed provisions for the peace treaties.]

WERNETTE (J. P.) Financing Full Employment. Cambridge, Mass.: Harvard University Press (Oxford University Press), 1945. 8″. Pp. x + 126. 11*s* 6*d*.

[To be reviewed.]

Dutch.

ELSAS (M. J.). Umriss einer Geschichte der Preise und Lohne in Deutschland. Vol. II. Part I. Leiden: A. W. Sijthoff, 1940 (appeared 1946). 10″. Pp. 649. Bound Fl. 14.70, unbound Fl. 13.10.

[To be reviewed.]

French.

LESCURE (J.) Étude Sociale Comparée des Régimes de Liberté et des Régimes Autoritaires. Paris: Éditions Domat-Montchrestien, 1946. 9″. Pp. 483. 300 *fr*.

[To be reviewed.]

LEVY-JACQUEMIN (J.). L'Économie du Monde. Paris: Librairie du Recueil Sirey, 1946. 9″. Pp. 166.

[This is a study of world trade, of the dislocations caused by the war, the present difficulties of the major countries, including Great Britain, and the possible effects of Bretton Woods and the Funds.]

Italian.

CHESSA (F.). L'economica e la guerra. Turin: G. Giappichelli, 1945. 10″. Pp. viii + 207.

[A short analysis of the economic aspects of war, the chapter of most general interest being that dealing with the causes of war in which the author discusses and rejects, in whole or in part, the views put forward by earlier writers on this topic, such as Marx and Lenin on the one side or Pigou and Robbins on the other. He holds that "war is an essentially human phenomenon which necessarily and naturally results from the development of the relations of nations to one another." He is sceptical as to the possibility of a Federal Union of European

States, but thinks that unions of groups of states which are in a similar stage of economic and political development might conceivably lead to a further integration at some future date. But his final conclusion is frankly pessimistic: "The apparently peaceful competition of commerce, arts and science always results eventually in conflict, just as the same thing happens between peoples, and so it will always remain—at any rate unless or until the moral conscience of mankind is so far developed as to enable him to rise superior to his interests and passions."]

DEMARIA (G.). Principi Generali di Logica Economica. Milan: Edizioni CEA, 1945. 9½". Pp. 484. 450 *l.*

[To be reviewed.]

Turkish.

ONARAN (M. H.). Teoride ve Pratikte Paramizin Iç ve Diş Değeri. Ankara: Başbakanlik Devlet Matbaasi, 1945. 9". Pp. 62. 200 *Krs.*

[A study of the internal and external value of the Turkish currency by a former graduate of London University.]

THE ECONOMIC JOURNAL

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DELIBERATE INDUSTRIALISATION FOR HIGHER INCOMES [1]

1. The Urge to Industrialise: Its Causes and Components

Economic development of the newer countries during the nineteenth and early twentieth centuries was essentially the exploitation of profit opportunities in food and raw materials. A wide variety of products—wheat, coffee, tea, sugar, vegetable oils, mutton, beef, wool, cotton, rubber, tin, copper, nitrates, etc.—were developed over the years in different countries, and these were exchanged against the processed goods and manufactures of the older and more industrialised countries.[2] But the world depression checked this mutually profitable exchange between the older and newer countries. Food and raw-material prices fell drastically. Unsaleable surpluses accumulated in the newer countries while production went on unchecked or even increased. At the same time the prices of manufactured goods from the industrial countries fell much less, with the result that food and raw-material producers suffered worsened terms of trade on what commerce remained.[3]

The specific response to these unfavourable developments

[1] This paper is part of a larger study on International Economic Relations now being carried on by the writer with Professor Friedrich A. Lutz under the auspices of the Twentieth-Century Fund.

[2] The stage of development of the economies from which these foods and raw materials came was, of course, far from identical. By 1929, for example, Australia and Canada had achieved considerable industrialisation, while the Malay States and the Netherlands Indies remained almost exclusively agricultural. The United States, although an important exporter of raw materials, was already highly industrialised by 1900.

[3] ". . . the Canadian terms of trade thus deteriorated by about 20 per cent. from the 'twenties to the 'thirties, although they improved again after 1935. This movement was . . . very unevenly spread over the various groups of exports. It was most pronounced in agricultural, vegetable, and animal products, and in wood, wood products, and paper, three groups of decisive importance for Canada's exports; and in fibres, textiles, and textile products, a group of very small significance." E. Munzer, "Exports and National Income in Canada," *Canadian Journal of Economics and Political Science*, February 1945, p. 41.

was not identical in all the newer countries. But, as everywhere else, the persistence of the depression forced the raw-material-producing countries to re-appraise their economic position. National economic policy, and even to some extent colonial policy, increasingly emphasised economic stability and diversified production. Monoculture was discouraged. Diversification, self-sufficiency, " balanced production," industrialisation, and stability increasingly became the slogans of policy. The nineteenth-century views on international specialisation and exchange seemed inapplicable to the crisis of the early 'thirties. Moreover, economic policy in the older industrialised countries, with which the raw-material countries had had a profitable commerce before 1930, only encouraged the drift towards industrialisation and self-sufficiency in the " backward " areas.[1]

The decade between the end of the depression (say 1936) and the termination of World War II gave fresh impetus to programmes for industrialising the newer countries. The urge to industrialise was strengthened by a variety of factors. Perhaps first in importance was the fact that the war itself seemed to demonstrate that centralised Government control of production was both more efficient and more administratively feasible than had been believed earlier. The demonstration came from two sides. On the one hand, whole new industries sprang into being in the older industrial countries and aggregate output increased astoundingly despite war-time difficulties. On the other hand, the war seemingly settled the dispute as to whether Russia had or had not succeeded in industrialising her economy in a few short years. Both achievements seemed to emphasise that the possibilities of deliberately planned industrialisation were much greater than had been generally believed.[2]

[1] Autarky as an economic policy for Germany was, from one point of view, only the ultimate extension of attitudes and value judgements that were prevalent in nearly all countries during the depression. The first major move by the United States Congress to combat the depression, for example, was to enact the Hawley-Smoot tariff in 1930, which raised rates to the highest level in history. If the industrial countries insisted on excluding imports of food and raw materials (as well as manufactures), then the newer countries whose economies were organised for the export of these goods would have to develop home industry willy-nilly. In other words, the change in economic policy towards foreign trade in the industrial countries, which evolved during the depression, *forced* the newer countries to industrialise and to be more self-sufficient.

[2] An ancillary factor here was the fact that the immediate pre-war years and the war itself showed that synthetic products and the use of non-steam power had greater possibilities than had earlier been believed. The argument in the past had typically been that a shortage of coal and essential raw materials was an almost insuperable barrier to industrialisation. But the war seemed to show that there were many ways around such difficulties at less than a prohibitive cost.

A second factor was that many manufactured goods were unobtainable from abroad during the war years. The experience was particularly annoying to the unindustrialised raw-material countries because, in contrast to the depression years, they had adequate foreign exchange. Home industry and sources of raw-material supply (including foods) were necessarily stimulated. Their present existence will encourage still further economic development and industrialisation as a deliberate policy.[1]

The third group of factors strengthening the urge (even determination) to industrialise and develop low-income areas would include certain "intangible" items. Nationalist feeling and nationalist pride have probably not diminished during the war. In China, the Netherlands Indies, French Indo-China, Egypt, and India the conviction seems to be widespread that the controlling "foreign" Powers have in the past deliberately retarded economic development for selfish reasons. Thus current proposals have a strong political and cultural drive. And it would be foolish to pretend that these motives are of secondary importance.[2] Nationalism and the insistence on "independence" cannot be disregarded in any realistic discussion of contemporary industrialisation and economic development schemes. These impart a fervour that might otherwise be absent.

2. Industrialisation and Economic Development in the Quest for Better Living

If one surveys the earth's peoples with respect to industrialisation and welfare three important facts stand forth clearly. *First*, manufacturing production (that is, production other than agriculture, extractive industries, trade, and services) is distributed between the nations in a highly uneven manner. Although manufacturing production has been becoming increasingly diffused throughout the world since 1870, a high degree of concentration still prevails. In 1870 the United States (23·3%), Germany (13·2%) and the United Kingdom (31·8%) together accounted for 68·3% of the world's manufacturing production.[3]

[1] Cf. Kathleen O. Horton and Thomas R. Wilson, *Some Factors in Post-war Trade with British Empire*, U.S. Department of Commerce, Bureau of Foreign and Domestic Commerce, Economic Series No. 39, Washington, 1944; also C. M. Purves, "Wartime Changes in World Food Production," *Foreign Agriculture*, January 1945.

[2] Cf. P. T. Ellsworth, *Chile: An Economy in Transition*, New York, 1945, p. 132.

[3] Folke Hilgerdt, *Industrialisation and Foreign Trade*, League of Nations, Geneva, 1945, II, A. 10, p. 13.

Although an index of world manufacturing production (1925–29 = 100) rose from 14·4 in 1870 to 135·0 in 1938, these same three countries in 1938 still accounted for more than 50% of the world's manufacturing production.[1]

The mere fact that a particular area *produces* no manufactured goods is (economically) of little moment *if* the region *acquires* manufactures by trade and exchange with the rest of the world. But, in fact, the *per capita* consumption of manufactured goods shows an enormous drop from the wealthier industrialised countries to the poorer agricultural countries. The *second* important fact is thus that, in the main, the countries which do not produce manufactures do not consume them in large quantities. In 1926–29 the *per capita* supply (production plus imports and minus exports) of finished factory products other than foodstuffs was $254 for the United States, less than half this amount in the United Kingdom and Germany ($112 and $111 respectively), about $28 in Japan as against $22 in Russia, but only $3 in China and India, which together held almost one-half of the world's population within their borders.[2]

Third, it is a striking statistical fact that a fairly high correlation exists between low *per capita* incomes and a high percentage of the population engaged in agricultural production. Countries standing at the low end of the income scale—China, India, Netherlands Indies, South-eastern Europe, certain Latin American countries—typically have 50% (or more) of their population engaged in agriculture. Even New Zealand, Canada, and Denmark, which are often thought of as predominantly agricultural countries, had only respectively, 28%, 31%, and 36% of their gainfully employed population in agriculture. Yet greater industrialisation is not simply a matter of a higher percentage of the working population engaged in manufacturing.[3]

While low incomes and a high proportion of the population in agriculture seem to go together, it is also the fact that as the proportion of the population engaged in agricultural pursuits increases (as we move down the income scale), the yield from

[1] Folke Hilgerdt, *Industrialisation and Foreign Trade*, League of Nations, Geneva, 1945, II, A. 10, pp. 138–140.

[2] Cf. *ibid.*, p. 22.

[3] ". . . the industrialisation process does not simply result in the absorption by industry of part of the agricultural population. The chief fact brought out is that, as the share of population engaged in industry increases, so does that in all the other big occupational groups except agriculture. In particular, the population engaged in commerce and transport increases along with that in manufacturing." *Industrialisation and Foreign Trade*, p. 28.

agriculture per unit of arable land area also declines fairly steadily.[1] This would suggest either agricultural overpopulation, poor quality of land, primitive (non-capitalistic) methods of cultivation or some combination of the three. From these three groups of related facts the conclusion is often drawn that higher real incomes in the low-income areas depend on industrial development. Yet statistical correlation does not necessarily demonstrate causal relationship.

Industrialisation *per se* may not be an open sesame to higher real incomes the world over. For, although the high *per capita* income countries are typically industrialised countries, their high productivity *per capita*, which affords them their high incomes, cannot, logically, be traced altogether to their industrialisation. In most instances the industrialisation is itself to be explained by the combination in those areas of rich natural resources, an energetic and skilled people, a topography and climate favourable to production, and, certainly not least in importance, a population not large relative to the usable land area. In other words, conditions were relatively favourable for a high *per capita* productivity with or without industrialisation, and so for a high *per capita* standard of living. Lacking these more basic advantages, neither industrialisation nor a high standard of living would eventuate. That this is the more probable causal relationship rather than a direct sequence from industrialisation to better standards of living seems to be emphasised by the very *marked* differences in incomes within the high-income countries themselves. One would scarcely argue, presumably, that in the United States the low incomes in certain states was, in any fundamental sense, chargeable to the absence of industrialisation, nor—what is even more important—that *more* industrialisation would certainly raise their *per capita* incomes. It would be more reasonable to point to the poor natural resources, natural land barriers, skill and energy deficiencies of the population, and the like. Consequently reasoning from more industrialisation to higher living

[1] It would require more space than is available here to give adequate statistical evidence in proof of this assertion. But if the countries are ranked according to the increasing proportion of the employed populations in agriculture, and these are set against the yields per acre in agricultural crops—*e.g.*, in wheat, rye, barley, and potatoes—the yields tend to decline fairly consistently. The extensive type of farming operations carried on in Australia, Canada, and Argentina of course give them a position apart. But, aside from these countries, the most thoroughly agricultural countries likewise seem to have the lowest yields per unit area. Cf. *Statistisches Jahrbuch für Das Deutsche Reich* 1934, Internationale Übersichten, pp. 38–41; also *Industrialisation and Foreign Trade*, p. 38.

standards may be a tenuous base for economic development plans in some areas unless, perchance, the more fundamental favourable factors are also present. And the danger is especially great where "industrialisation" is used in a narrow sense of simply having more factories or industrial plants.

3. Deliberate Industrialisation for Higher Incomes: Some Problems and Difficulties

No one could quarrel over the desirability of improving the miserable lot of half the world's population. At the same time, however, well-intentioned schemes which disregard the inherent realities of the problem will end in disillusion and despair. Good works are more than benevolent hopes.

One might assume that the future industrialisation and economic development of low-income areas will follow a pattern similar to that woven by countries that have already industrialised. In the nineteenth and early twentieth centuries the British Dominions, Sweden, Switzerland, and most of Western Europe passed from agriculture to industry with rising standards of living. Partial industrialisation was achieved by the Japanese in Manchuria. And on a smaller scale with a number of special features has been the "economic development" of Palestine. Careful study of these instances of industrialisation and economic development should, one might suppose, allow a reasonable forecast of the probable sequence of industrial development in the now low-income areas. Such studies would undoubtedly be highly illuminating; and they would forewarn against errors that might otherwise be committed in some industrialisation programmes for low-income areas.

But there are important differences between the industrialisations that have already occurred and those that are now being planned. The countries that industrialised in the nineteenth century—Western Europe, the United States, and, to some extent, the British Dominions—did so along free enterprise principles in areas rich in natural resources relative to their population. A common ideology and scale of values prevailed, and there was a century of nearly unbroken peace. Contemporary China, India or South-eastern Europe are something else again. The recent industrialisation of the U.S.S.R. is also unique in several respects. Apart from having rich natural resources and virtually no population problem, the Russian industrialisation programme was spurred to a frenzied pace by an overriding fear

of possible foreign aggression and administered throughout with a ruthlessness that might not bear repetition.[1] The Manchurian case, although never carried through to completion, also has its own special features. In other words, some circumspection is appropriate in reasoning from what has occurred in Russia, the United States, or other already industrialised areas to a programme and forecast on industrialisation for China, India, the Netherlands Indies, South-eastern Europe, the Near East, or other poverty-stricken areas.

A proper study of these differences and the possibilities for improved living standards in particular areas would require a painstaking analysis region by region. Nevertheless a few general comments on the problem seem pertinent, and even necessary, in relation to the international investment problem as a whole.[2]

A country's change to an industrial status can be variously described according to the emphasis and point of view. On the one hand it is an increase in the real capital resources available per head of population.[3] Alternatively it is an increase in the

[1] The Russian case is also unique in that the programme was carried through by a huge programme of forced capital accumulation with almost no foreign borrowing beyond some medium-term commercial credits.

[2] As used in current discussion the term "economic development" is broader than industrialisation. Projects such as the T.V.A. or the Columbia River Development figure prominently in current discussions of what might be done through economic development. Worker training schemes, swamp drainage, or even population control programmes would be included along with highway construction and harbour development. An interesting recent discussion of the economic development of low income areas (National Planning Association, *International Development Loans*, Planning Pamphlets, No. 25, Washington, 1942) distinguishes four general types of undertakings; (1) *Basic undertakings*, which would include roads, irrigation, large hydro-electric power developments, etc., (2) *Reconstruction and conservation*, which, besides the repair of war damage, would include the reconstruction of cities, slum removal, prevention of soil erosion, flood control, etc.. (3) *Exploitation*, "projects which provide new, additional, improved, or cheaper commodities in a country for export to foreign markets." These are expected to be undertaken mainly by private enterprise on the basis of investment opportunities created by types (1) and (2) above, (4) *Diversification*, which is defined (p. 20) as ". . . steps to diversify national economic activity, for the purposes of distributing employment eggs into several baskets, of resisting the downward tendency in the bargaining position of the producer of foodstuffs and raw materials against countries exporting manufactured products, and of increasing national economic power." This fourth group would include agricultural diversification, introduction of light industry and even heavy industry.

Some interesting discussions of these problems are to be found also in H. D. Fong, *The Post-War Industrialisation of China*, National Planning Association, Planning Pamphlets, Nos. 12 and 13, Washington, 1942.

[3] For instance, "an increase in the amount of capital equipment and productivity per employed person and variety of goods." H. Frankel, "The Industrialization of Agricultural Countries," ECONOMIC JOURNAL, June–September

proportion of industrial production in total national income, or perhaps better, a *decrease* in the fraction of agricultural production in national income.[1] A different emphasis would stress the gradual widening of the sphere of the "money economy." Again, from a sociological point of view, urbanisation might be the important shift. It is a many-sided process and no simple definition is entirely satisfactory.[2]

Economists have traditionally classified productive factors into land, labour and capital.[3] With a given population and land area, a rise in total output in any economy can come about only in two principal ways: first, an increase in the total capital available for productive purposes, and/or second, an improved

1943, p. 191. "The movement of machinery and capital towards labour, instead of moving labour towards capital, is the process of industrialisation, which, together with agrarian improvement, is the most important aspect of the economic development of the depressed areas." P. N. Rosenstein-Rodan, "The International Development of Economically Backward Areas," *International Affairs*, April 1944, p., 161. (Here the author emphasised this solution because he sees no prospect of solving the problem of low-income areas by means of migration to high-income areas.) Notice, however, that if the emphasis is simply upon real capital resources per head of population, then the increased capital investment could theoretically occur in the primary industries. In fact in some countries this might well be the most promising means of raising consumption.

[1] Colin Clark and others would use this designation and classify production into primary, secondary and tertiary. As industrialisation proceeded Clark would use as a measure the increasing proportions of the working population in secondary and tertiary production. In *Conditions of Economic Progress* (p. 182) he writes concerning the classification, "For convenience in international comparisons production may be defined as primary, secondary, and tertiary. Under the former we include agricultural and pastoral production, fishing, forestry and hunting. Mining is more properly included with secondary production, covering manufacture, building construction and public works, gas and electricity supply. Tertiary production is defined by difference as consisting of all other economic activities, the principals of which are distribution, transport, public administration, domestic service and all other activities producing a non-material output."

[2] Perhaps Hilgerdt's description is as useful as any, ". . . the industrialisation process is not confined to the establishment of a manufacturing industry, but involves a change in the whole economic structure of the country concerned. This change may be briefly characterised as implying an extended division of labour complemented by a system of distribution and exchange of goods functioning in a developed 'money economy'." *Industrialisation and Foreign Trade*, p. 30.

[3] This is a crude tri-partite classification of course which has often been extended. Recently Professor J. J. Spengler has suggested that, "The complex of productive factors used jointly with labour may be divided roughly into five categories: (1) land, measured in terms of area and viewed as a situs for habitation and for agricultural and other productive activities; (2) non-depletable natural resources whose supply is essentially fixed; (3) depleteable and non-replaceable natural resources; (4) natural resources which are replaceable and whose supply is augmentable; and (5) equipment—*i.e.*, machinery, buildings, etc."—"Population and Per Capita Income," *Annals of the American Academy of Political and Social Science*, January 1945, p. 183. The virtues of such a classification for economic development schemes are obvious.

utilization of existing land, labour and equipment. In other words, if population and land area are a *datum*, greater output is only to be had through having more capital or through using all the factors of production more efficiently (improved technology).[1] For any given region, of course, both methods would probably be employed.

Capital Accumulation

Capital accumulation for increased output in low-income areas is a two-sided process. On the one hand, the population as a whole must consume less than the whole annual product. On the other hand, the savings made must be directed into productive capital formation. Even in some very poor countries savings are more than negligible (as an aggregate), but they either stand idle as hoards or move into unproductive capital formation. In the Balkans, for example, the hoarding of currency notes is said to be perhaps as much as 25% of the total circulation. Gold coins and foreign currency are also hoarded.[2] Similar hoarding habits have also gone on for generations in the Orient. But such hoarding means that what is saved is not made available for industrial equipment or for agricultural improvements. Real capital accumulation—in the sense that the whole annual output is not currently consumed each year—has not been entirely lacking even in the very low-income areas. Yet there has been little resulting gain in productive efficiency because the capital accumulation has taken the form of religious monuments, ancestral veneration, elaborate places of worship, and the like. Instead of acquiring more railroads, the population had rejoiced in better temples. Also such practices are apparently deeply rooted in the social, religious and moral values of the civilisation. They are not likely to disappear with a guarantee of bank deposits and the lure of 6%.

Transportation, communication and marketing facilities are perhaps the most productive form that real capital formation can initially assume in the low-income areas. Historically the impetus here has usually come from external trade. The frequently enormous spread between prices in the interior and prices in world markets has stimulated the construction of railways,

[1] Improved technology may depend either upon inventions, *e.g.*, the development of new industrial processes, new species or breeds, etc., or the application in the low-income area of techniques and processes that are already being used elsewhere. In most poverty areas economic development would consist to a high degree in borrowing from abroad long familiar processes and techniques.

[2] P.E.P., *Economic Development in S.E. Europe*, London, 1945, pp. 114–15.

telegraphs, storage warehouses and similar equipment. Improved facilities of this kind tend to push out the "village economy" as the market widens in area and variety.[1] Without transport facilities local production can supply only local needs. Industrialisation has no scope for development. Even local agriculture and the exploitation of local natural resources are restricted or precluded altogether. The country remains economically primitive. Incomes are at a subsistence level.

Although improved communications may be initially stimulated by foreign trade opportunities, the growth of towns and markets tends to force capital accumulation for domestic industry and commerce. More people come to be employed in supplying the needs of the urban areas for food, clothing, services, etc. The initial impulse may have come from export markets made possible from improved transportation. But local needs require some local industry. Aggregate output and *per capita* incomes tend to increase.

Thus transport and communication facilities are perhaps the most important type of real capital formation for a country intent upon industrialisation and improved living standards. Beyond this, general discussion cannot move far because the types of industry that can be most productively developed through capital investment will depend largely on the natural resources and the aptitudes of the people in the particular area. Textile production, at least the cheaper varieties, seems to be feasible nearly everywhere. Leather handicrafts and simple food and raw-material processing are also developed rather easily it seems.

Now, while transportation is indispensable to greater industrialisation and better living, transportation is also a highly "capital-intensive" industry. That is, railways, roads, river developments and airports require a heavy capital investment in relation to their annual income. They are therefore a heavy draft on the limited annual savings of low-income countries. For many low-income countries this initial major barrier has never been surmounted. Local savings have been insufficient to develop transport and communications, foreign investment was not obtained, with the result that the country has remained un-

[1] Cf. "Particularly in the tropics, railways and other means of communication have been essential for the establishment of order and of social and humanitarian reform, and upon them depends the ability to supply foodstuffs when famine threatens owing to failure of crops in some area. Everywhere they have played an important part in economic progress." *Industrialisation and Foreign Trade*, p. 31.

developed.[1] Whether these obstacles can be surmounted in the future through the International Bank for Reconstruction and Development, the Export-Import Bank or some other agency, remains to be seen. Certainly the difficulty is real enough.[2]

Labour Skills

Increased industrialisation in low-income areas is certain to require greatly increased numbers of skilled workers. The need is not alone for artisans and machine-tenders. Supervisory personnel, technicians and managers are equally indispensable. If the industrialisation proceeds slowly—*i.e.*, over several generations—perhaps no serious difficulties will arise because labour supply can more easily keep pace with the slowly increasing demand. But a forced draft industrialisation, such as many countries seemingly contemplate, will encounter genuine checks to output from mounting shortages of skilled labour. An agricultural population cannot acquire technical proficiency in industrial techniques overnight. In a measure the process is organic, and can evolve only gradually despite the best efforts. In the U.S.S.R.—the only rapid industrialisation achieved in recent times—skilled labour shortages were a perennial limitation to output despite strenuous training programmes. In 1929 more than 40% of those holding posts requiring technical training were said to be without such training.[3]

[1] An added difficulty is that a railroad is typically useless unless long enough to cover some distance. One cannot build a railroad for just a mile or two. It must extend between two points of some economic importance or potentiality and these are usually more than a few miles apart. Hence any useful railroad construction will typically require a large capital outlay. Piecemeal construction is valueless.

[2] We feel constrained to point out that railway developments have not been highly profitable undertakings for foreign capital in the past. Much of the American railway system that was initially financed by foreign lenders went through bankruptcy and reorganisation in which the foreign bondholders were wiped out. The Latin-American railways have had a similar history. Perhaps railway development is the prime example of capital investment which is beneficial to the country as a whole, but which only rarely yields much net return to the private investors who finance it. Certainly the United States or Canada or Argentina gained from foreign borrowing to construct the railways. Probably Great Britain also gained. But the *individual* British investors who helped to finance such developments probably ended up, as a group, on the loss side of the ledger.

[3] Alexander Baykov, *The Development of the Soviet Economic System*, Cambridge, England, 1946, pp. 217, 161. The universities in the U.S.S.R. are said to have trained 170,000 specialists during the first five-year plan and 369,000 during the second five-year plan. In the same intervals the technical schools trained 291,000 and 623,000 respectively. Since, at the end of the first five-years (1932) there were some 22 million workers and employees in industry it means that the half-million (461,000) specialists and technical school graduates

A proper labour-training programme—including literacy, technical skills, managerial skills, engineering, etc.—represents a long-term investment by the State for better incomes. But its magnitude, and above all its importance, should not be glossed over in any scheme for rapid industrialisation to achieve better living standards.

Labour Mobility

A non-static industrial society, in its initial and later stages alike, must maintain fluidity of its working population. Internal migrations from one area to another and from one occupation to another have to be reasonably free. An industrial society, at least all those of which we have knowledge, are societies in which the relative importance of different industries and different regions in the structure of production are not unchanging over the years.

Many low-income areas for which industrialisation programmes have been proposed, however, are characterised by social and religious institutions that strongly inhibit labour mobility. The key position of the family in Moslem countries, for example, tends to preclude migrations except by whole family groups.[1] The caste system in India similarly bars geographic and occupational migrations. Occidentals are apt to overlook such difficulties in the way of effective industrialization in the Orient because Western society is now largely free from such barriers.[2] But as Professor Notestein has emphasised,[3]

> High evaluations are placed on the perpetuation of the family, clan or other group, but low evaluations on the individual and his welfare.

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trained *during* the first five-year plan were less than 3% of those employed in industry. This is a tiny fraction for a country that prior to 1928 was chiefly agricultural. *Ibid.*, p. 353.

[1] Cf. " Many children, particularly many sons, afford something of an old-age security policy. It will be easier to live in comfort if many are contributing. Because of this attitude, perhaps, it is difficult to persuade Egyptians to migrate. The elders do not want the young to leave home. In consequence, such migration as there is, is largely by families as units." W. Wendell Cleland, " A Population Plan for Egypt " in Milbank Memorial Fund, *Demographic Studies of Selected Areas of Rapid Growth*, New York, 1944, p. 132.

[2] " Many Indians would like to see India an independent nation, but not at the expense of their religion. Many would like to see India a wealthier nation, but not at the expense of their own relative wealth. Many would like to see India an educated nation, but not if it includes the lower castes. . . . Many would like to enjoy the privilege of climbing socially, but not by the extension of that privilege to persons beneath themselves." Kingsley Davis, " Demographic Fact and Policy in India," in *ibid.*, p. 52.

[3] Frank W. Notestein, " Problems of Policy in Relation to Areas of Heavy Population Pressure," *ibid.*, pp. 145–6.

These values are deeply imbedded and rigidly enforced by social sanctions. Even under the impact of a rapidly shifting environment, they change only gradually.

Land tenure systems, impossible tax arrangements, and "other-worldly" religious tenets similarly operate to restrict the kind of occupational mobility industrial development requires. These are complex topics which can only be mentioned here in passing. But they suggest that industrialisation is more than providing warehouses or factory buildings for low-income farmers.

The Population Problem

Among the low-income agricultural areas for which industrialisation and economic development programmes have been proposed as a means to improved welfare a surprising number face the "population problem" in acute form. Specifically, Egypt, India, China, Korea, Formosa, Java, large sections of the Caribbean area, much of the Philippines, and parts of the Balkans, all these face the threat of having the gains in total output chiefly swallowed up by greater numbers.[1] Another 400 million Indians at about the same standard of living is scarcely a significant net gain from any point of view.

Between 1921 and 1941 India's population increased by 83 million,[2] or, in other words, an increase in absolute numbers amounting to 62% of the *total* population of the United States (132 million) at the latter date. But India has not had an outstandingly large *rate* of increase in comparison with other areas. The Egyptian population at 16·6 million (1939) is said to have doubled since 1882.[3] India, with an annual growth rate of 1·21% between 1921 and 1941, lagged far behind the Netherlands Indies' rate of 2·08 between 1920 and 1930 (where the population in 1930 was already 60·7 million) and 2·20 in the Philippines between 1918 and 1939, where the population in 1939 was estimated at 16 million.[4] One careful student suggests that,

[1] Cf., Notestein, *loc. cit.*, Professor J. J. Spengler has written, "The population of the world falls, Thompson finds, into three groups: I, comprising 21%, have natality and mortality under control; II, comprising 21%, is bringing natality and mortality under control,; III comprising 58%, has neither mortality nor natality under 'reasonably secure control.' In 1925–34, C. Clark's studies suggest, group I received about 58% of the world's income; II, about 24%; III, something like 18%." *Op. cit.*, p. 191.

[2] Kingsley Davis, *loc. cit.*, p. 39.

[3] Clyde V. Kiser, "The Demographic Position of Egypt," in *Demographic Studies of Selected Areas of Rapid Growth*, New York, 1944, p. 99.

[4] Frank W. Notestein, *loc. cit.*, p. 142.

of a probable total world population of 3·3 billion people in the year 2000, perhaps 2 billion will be in Asia.[1]

The primary reason for population growth in the low-income areas is, of course, that improvements in aggregate output cut mortality rates. The birth rates are already high. Greater output from improved facilities and organisation work chiefly in the direction of reducing mortality rather than increasing birth rates. Moreover, improved mortality rates, which by definition means that those who are born survive for a longer interval, implies that more persons survive through the "productive" years, with the result that the initial growth in the population (from improved mortality rates) tends to be cumulative for a time. This tendency will be the stronger, moreover, if (as frequently occurs) the improvement in mortality rates is most marked at the lower age groups of infancy and childhood. With given assumptions along these lines demographers can show, for any country for which the pertinent data are available, at what total figure the population will reach an "equilibrium."[2]

An appreciable and enduring improvement in living standards in the already densely populated areas—India, Java, Formosa, Korea, China, Egypt, and the Carribbean—depends on a rise in total output accompanied by a drop in birth rates. But in most of these areas—despite some industrialisation, public health measures and urbanisation—birth rates have held close to the biological maximum. The indigenous social and political mores have not yet given way to newer beliefs which would cut the birth rate. As Professor Kingsley Davis has written, after having just pointed out the various steps successfully taken in India to reduce famine and epidemic,[3]

> But the gain has not depended on a great change in the texture of Indian life, and hence does not have any such change to rely on in the future. The local village still remains about as unsanitary as ever, the public apathy to health measures about as complete as ever, and the poverty almost as abject as ever. . . .
>
> To the extent that additional control of mortality is achieved without altering the fundamental conditions of Indian life, and without therefore greatly affecting fertility, the gap between births and deaths will continue to widen and the population growth to accelerate. This will tend to create an unstable demographic situation, because if the external and somewhat artificial support of the reduced mor-

[1] Frank W. Notestein, "Population—The Long View," in Theodore W. Schultz (ed.) *Food for the World*, Chicago, 1945, p. 57.

[2] Cf., for example, John Lindberg, "Food Supply under a Programme of Freedom from Want, *Social Research*, May 1945, pp. 189–95 and Frank W. Notestein *et al.*, *The Future Population of Europe and the Soviet Union*, League of Nations, 1944, II, A. 2, Geneva, 1944.

[3] *Op. cit.*, pp. 47–48.

tality should be withdrawn, there will be a larger population to be affected by a suddenly increased death rate.

These sentences would apply with equal force to American efforts in Puerto Rico.

The very fact that mortality rates *have* fallen in the low-income areas over the past half-century is, of course, itself evidence of somewhat improved average standards of living. For no one would deny that an improvement in life expectancy is a net accretion to welfare. But the failure of birth rates to diminish has meant that the gain in *per capita* living standards has been far below what it might have been *without* the population growth, and much less than proportionate to the rise in total output.

Whether for most of these areas a full-scale industrialisation and economic development programme—something far more amibtious than has ever been attempted in the past—would give a sufficiently sudden lift to *per capita* output to maintain itself by checking birth rates no one can say with certainty. The possibility unquestionably exists. The Western European countries passed through the fire in this manner. The Japanese case seems to be still an open question.[1] The prospects in South-eastern Europe and Latin America perhaps are more promising. But as a fraction of the low-income peoples in the world as a whole these regions do not bulk large.

We dislike to end this sketch of the industrialisation problem on a pessimistic note. But until the population problem of the low-income areas is faced squarely in all its complexities, much of the other discussion of improved living through industrialisation and economic development seems somewhat beside the point.

The object and purpose of the foregoing analysis is not to leave the conclusion that " nothing can be done " for the low-income areas. Rather our intent has been to stress that industrialisation for higher incomes and economic development for better living are complicated undertakings involving something more than the generous provision of loan capital from the wealthier countries. With the exception of Russia, which is a unique case from more

[1] Cf., " The dynamics of fertility decline in Japan during the three-quarters of a century since the opening to the West offer little basis for optimism with reference to the possibilities of an early cessation to population growth in the overcrowded regions in Asia. It is true that fertility declined in Japan, but in 1935 fertility even in the large cities was very high in relation to that in the West. Fertility in rural areas and the small towns has declined only slightly except as the increasing age of marriage and the decreasing prevalence of informal marriages had decreased the fertility of younger women." Irene B. Tauber and Edwin G. Beal, " The Dynamics of Population in Japan," *Demographic Studies of Selected Areas of Rapid Growth*, New York, 1944, p. 34.

than one point of view, industrial development in the past has been slowly attained over four or five decades.[1] An interval of several generations allows the process to assume an organic integration in its several parts which is not so easily achieved when the programme calls for moving ahead under forced draft at a rapid rate. Yet, especially in the low-income areas, where there is already a population problem, a quick forward advance seems to be the most promising approach towards higher real incomes. A more gradual assault on poverty income levels is likely to be repulsed by the tide of rising numbers. One would like to bask in the warm comfort of easy assurances that some writers have imparted to the whole problem of the industrialisation of under-developed areas if only capital is forthcoming from the richer countries. But although foreign assistance can play a rôle, it is not a " universal passport " to higher income levels.

4. Foreign Borrowing and Better Living: The Contribution of Foreign Capital

Persons who discuss these matters in general terms occasionaally leave their audiences with the conclusion that, because improved output in low-income countries depends (partly) on having more capital, and since the poor countries (by definition) have little capital, the difficulty can be solved only by capital imports from abroad. The wealthier countries must provide the capital for the poorer countries if their incomes are to be bettered. Yet the process seems to bear only a superficial resemblance to such views. Foreign borrowing can assist or speed industrialisation in low-income areas. But its rôle is not all important and in some performances—*e.g.*, as in Russia—might be omitted from the programme altogether.

According to one careful estimate the 8·5 million wage-earners in American manufacturing industry in 1937 worked with $21·2 billion of capital assets other than land, or an average of $2,474

[1] The industrialisation of Japan might seem to be an exception also. But Japanese industrialisation seems to have extended over a somewhat longer period than is commonly supposed—say from 1890–1930. Hilgerdt's index of manufacturing for Japan (1913 = 100) rose from 15 in 1891–95 to 93·1 in 1911–13 to 294·8 in 1930 and to 528·9 in 1936–38. Even in the 1936–38 period, Japan could claim only 3·5% of the world total. See *Industrialisation and Foreign Trade*, pp. 130, 134, 13. See also Robert W. Tufts' Appendix to Ch. IV of Eugene Staley, *World Economic Development*, Montreal, 1944. As Tufts has well said, " The process of industrialisation is a time-consuming process, involving much more than the supply of capital goods. It seems unlikely that eastern Asia will be able to industrialise much faster than Japan did." *Loc. cit.*, p. 11.

per wage-earner.[1] Also in 1937 the total population of the continental United States was estimated at 128·8 million persons. Consequently the investment in capital assets other than land in manufacturing per head in the United States was $164. Now to *add* to the capital investment in manufacturing in India with its 400 million persons an amount of $20 per head (and assuming no growth in population to occur in the process) would require an investment of $8 billion. An increment of this amount, of course, would leave India still far behind the United States in capital equipment in manufacturing. Furthermore, without similar investments in transportation, warehouses, distribution facilities,[2] etc., the investment in manufacturing would be of limited usefulness. The sheer magnitude of the capital sums required show that only a small fraction of the investment required for industrialisation can come from abroad under any reasonable assumptions.

A more important reason why only a small fraction of the total investment necessary for industrialisation can come from abroad is to be found in the nature of the real capital needed. Any industrialised country has a high proportion of its total productive capital in the form of buildings, railway roadbed, highways, harbour developments, sewage systems, river developments and the like, which by their very nature cannot be "imported" in any direct sense. They have to be fabricated on the spot by local labour using local materials.[3] Except for the rails and cross-ties, a railway line from the seacoast to the interior in an under-developed country cannot be imported; it has to be constructed locally. Any assistance from abroad must be indirect in projects of this sort. And a very large proportion of the capital goods needed for industrialisation are of this type.[4]

The comprehensive industrialisation of an under-developed country will encounter special import needs and balance of payments difficulties, and so a need for foreign loans unless unusual precautions are taken. The reasons are chiefly three.

[1] Solomon Fabricant, *Employment in Manufacturing*, 1899–1939, New York, 1942, p. 257.

[2] In 1937 the investment in steam railroads in the United States is reported (*Statistical Abstract of the United States*, 1943, p. 457) at $25·6 billion or something less than $200 per head of population. This figure is probably an over-statement but is sufficient for illustrative purposes.

[3] As Tufts has remarked in his analysis of the Japanese case (*loc. cit.*, p. 7), "Most of the capital goods required in the industrialisation of Japan were produced domestically."

[4] The author has dealt with the problems of this section at greater length elsewhere, Buchanan, *International Investment and Domestic Welfare*, New York, 1945, especially Chapters 2, 5, 6.

First, the actual industrialisation itself will mean that more machinery and supplies will have to be imported than before. In the early stages construction machinery and building supplies may be the chief items. Later perhaps textile machinery, electrical machinery, railroad rolling-stock and industrial raw materials will be more typical. All in all the industrialisation will usually be impossible without increased imports of various products that cannot be had in the home market. Imports will be *directly* stimulated by the industrialisation programme.

Second, the industrialisation programme, involving as it does a large increase in total investment outlays in the country concerned, will generate an increased demand for imports simply because aggregate money income will be rising. The new developments cannot proceed without investment expenditures, the investment expenditures inevitably increase money incomes, and without restriction part of the larger money incomes will be spent by the recipients for foreign-made goods. Goods formerly imported (simple manufactures, etc.) will be imported in greater volume and new items will enter the list. Hence there will be an *induced* rise in imports if steps are not taken to prevent it. The appropriate measures would be higher-income taxes, import prohibitions or higher duties, and perhaps also increased excise taxes on domestic and foreign "luxury" goods alike.[1]

Third, the industrialisation of the country will also work in the direction of reducing exports below their earlier level, at least in its earlier stages. More domestically produced raw materials, including foods, will be consumed at home rather than sent abroad. Labour will probably be drawn away from some of the former export industries to work on the newer projects that are the essence of the industrialisation process. One cannot be altogether certain in these matters, but exports will probably tend to decline with industrialisation.

[1] In some areas higher income taxes may not be possible for the masses of the people because the economy is not sufficiently developed to allow personal income taxes to be used. Income taxes presuppose a fairly high development of the techniques of record keeping. In this case sales taxes or turnover taxes would presumably have to be used despite their inequities in burden. Higher import duties simply prevent people from spending their (now) higher incomes on foreign-made goods by making them more expensive. But it is also desirable to prevent economic resources at home from being drawn into the production of luxury goods because this means that fewer resources are available for pushing the industrialisation programme. Hence heavy excise taxes on luxury goods may be necessary to prevent their manufacture and consumption. A system of priorities for labour and materials, with luxury goods getting a very low rating, would be an alternative control technique. But only passing reference to these administrative problems is appropriate here.

But falling exports in conjunction with rising imports automatically make for a shortage of foreign exchange which the industrialising country will have to overcome. Exchange control is one possibility: the Government simply rations scarce foreign exchange amongst the many claimants. From an international point of view exchange control is not a happy solution for obvious reasons. A foreign loan, or a stream of foreign loans, is an alternative and in most instances a superior solution. The industrialisation process itself tends to create a scarcity of foreign exchange. Foreign borrowing increases the supply of foreign exchange, and so overcomes the scarcity.

A moment's thought will show that the amount of foreign borrowing for a particular industrialisation undertaking is not any precisely definable sum which can be set down in advance. It will depend, first, upon the possibilities for pushing exports and checking imports in the industrialising country, and so providing the needed foreign exchange *without* recourse to borrowing. Wide differences between countries, in this respect, will unquestionably prevail. In some cases the industrialisation process will mean the extensive development of export industries. But this will not be possible at once, with the result that for a time foreign borrowing will be nearly unavoidable if the development is to proceed. In other cases the emphasis may be strongly upon avoiding imports from abroad altogether: even machinery that could be had from abroad more cheaply may not be imported; but instead orders will be placed at home in order to develop a machinery industry within the country. With such widely varying possibilities one can scarcely generalise on the amount of "necessary" foreign borrowing.

The amount of foreign borrowing needed to assist industrialisation will depend secondly, however, on how drastically the country is willing to cut current consumption to speed capital formation and on how rapidly the country is determined to carry through its plans. In general, the greater the restriction of current consumption the less the need for foreign borrowing, and conversely, of course. On the other hand, the greater the speed required the greater the need for foreign borrowing. And again conversely.

If the country is willing to cut consumption out of current output to very low levels so that capital formation can proceed apace, then foreign borrowing may even be avoided altogether. The U.S.S.R. industrialised virtually without foreign loans except for some medium-term commercial credits. But this

entailed keeping the output of consumers' goods at exceedingly low levels, and even exporting grain to pay for needed imports, despite the fact that some people were even starving at home. This will be precisely the difficulty in some low-income areas of to-day. The level of consumption is so exceedingly low that any reduction will force starvation, or at least great hardship, upon many millions. Yet without an increase in domestic savings not much real capital formation can occur. All the same, productive capital formation means cutting consumption or diverting resources from non-productive capital formation. But there is a limit here, and foreign borrowing may ease the burden by allowing consumption to be maintained at a satisfactory level through greater imports while productive capital formation proceeds.

Clearly the pace set for attaining an industrial status will modify or aggravate the foregoing. A five-year programme or a ten-year programme will require more outside assistance per year to supplement domestic consumption than one extending over a quarter century.[1] A *very poor* country that endeavoured to industrialise at a very rapid rate would have to borrow enormous sums abroad or allow many of its people to die of starvation.

Thus the question of how much foreign borrowing is "necessary" to assist in the industrialisation of economically backward areas has no easy answer. External factors set the technical possibilities, but the ability, and, above all, the willingness of people to put themselves on short rations will fix the practicable answer.

Thus the road from lower to higher *per capita* incomes via industrialisation has its obstacles. The nineteenth-century sequence will probably not be repeated. The State rather than the drive of private enterprise in pursuit of profits will determine the major features of industrial development in the (now) low-income areas. Domestic savings and investment, labour training and mobility, imports and exports, foreign borrowing and home finance will be guided by the visible hand of the State in the quest for higher incomes through industrialisation. Whether in the densely populated areas natality can be sufficiently held in check to permit

[1] We use the phrase "to supplement domestic consumption" to cover all three difficulties (discussed above pp. 549–51) tending to create a shortage of foreign exchange. For, necessary imports can be paid for out of current exports by cutting home consumption; if exports, instead of being allowed to fall as industrialisation proceeds, are in fact maintained this means a reduction in domestic consumption too. Foreign borrowing, therefore, is an alternative to a reduction in home consumption.

a substantial and sustained gain in real incomes *per capita* cannot now be proven or disproven. Certainly the attempt to push industrialisation has a powerful drive from several sides. And since real capital investment has the character it does, much of the investment undertaken will remain beyond any population crisis that may develop. In other words, the resulting capital goods and equipment will not be wiped out even though several millions should die of starvation either through miscalculation or too hurried a pace in the industrialisation programme. The next attempt thus will start from a higher plane. Consequently from a long-term point of view even an industrialisation programme that misfires is likely to have lasting benefits. But such a false start is only a possibility, not a forecast.

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ECONOMIC MODELS WITH SPECIAL REFERENCE TO MR. KALDOR'S SYSTEM

I. Introduction

The discussion in quantitative terms of problems of general economic policy, such as a policy for full employment which is occupying so many minds at the present time, requires a knowledge of the interaction of transactions throughout the economic system, and so brings into practical importance a certain type of economic model or representation. It would, we think, be generally agreed that the fundamental condition for success in maintaining "full" employment is that expenditure for current goods or additions to stocks of equipment and works of all kinds must equal the value of the output of the factors of production when they are "fully" employed. One may assent to this proposition without necessarily believing that this condition can be satisfied in practice by a policy which takes account only of aggregates and ignores the special problems of individual industries and areas.

Given a definition of "full" employment and a level of prices and rates of remuneration, it is possible to calculate a potential national product defined as the value which would be produced by all the factors of production at this level of employment and prices, etc. On the assumption that the current level of prices, etc., is chosen, the difference between the potential product and the current product will represent, as a first approximation, the additional expenditure required to achieve full employment. There are many different forms which this additional expenditure may take, but in framing a policy account must be taken of the reactions which will be made by other parts of the economy to any change that is made. For example, if net capital formation is increased without a fall taking place in some other form of expenditure, the increase in incomes so generated will lead to a rise in consumption. The precise amount of this rise will depend on the reaction of the community to a rise in its income, and is summed up in the propensity to consume relation. It can only be determined by observation.

The remaining sections of this paper are three in number. Section II deals briefly with the nature and use of economic

models. Section III sets out in symbolic terms the model which appears to underlie Mr. Kaldor's interesting and important treatment of the post-war employment problem in this country.[1] In this section we confine ourselves to the character of the model and the process of reasoning that leads to the numerical solutions reached by Mr. Kaldor. We are not concerned at all with the validity of the assumptions which lead to the assumed fixed values of some of the variates, such as the potential national product. Finally, in the last section we consider some of the main problems, economic and statistical, arising out of the construction and use of models which seem to require further research.

II. The Nature and Use of Economic Models

An economic model is a closed symbolic representation of the interaction of certain economic phenomena. A certain number of variates, say n, are selected for study (the unknowns), and these are connected by an equal number of independent relationships (the basic equations). It is not essential that the model should cover the whole of an economic system (such as the interrelated world economy), but, if it does not, it represents a system of " inside " relationships which are subject to disturbance by variations from outside. Thus we may consider only one open economy, and take as given the factors in the rest of the world which operate on that country's balance of payments. Or we may restrict the scope of the model still further, and interest ourselves in only a part of one economy, treating the remainder as outside influences which are given. In the example of the next section Mr. Kaldor is mainly interested in methods of securing full employment by fiscal measures and therefore treats many factors, such, for example, as capital formation, as outside that part of the economic system which his model is intended to represent.

But apart from restricting the *extent* of the model, it is also possible to restrict the *degree* to which any area selected is covered. Thus, in estimating the propensity to consume relation, we should probably be content to explain the major part of the variance of consumers' expenditure and to regard the many small factors that account for the remaining part of the variance as outside the system. The extent to which a model may be restricted and the degree to which it may be simplified depend

[1] See Appendix C of Sir William Beveridge's *Full Employment in a Free Society* (1944), pp. 344–401.

on the purposes for which it is to be used. A model which is perfectly satisfactory for some purposes may be quite useless for others which involve the same variates.

It is worth noting that the concepts and relationships chosen for the construction of a model are not given by nature, but are largely the invention of the investigator and depend on the way in which he thinks it profitable to represent experience. The most appropriate choice of variates and relationships with which to represent a variable system may only be invented after centuries of investigation, throughout which representations that from the "final" point of view seem unnecessarily clumsy succeed in "saving the phenomena."[1] It even appears to be possible for distinct and seemingly incompatible representations to provide, within limits, a satisfactory account of observation. Indeed, some writers maintain that in principle any set of observations can be explained in an indefinitely large number of ways. It is largely an illusion based on taking existing concepts and theories for granted that enables us to talk as if variates and relationships exist in nature and are not simply one of many ways by means of which observations can be represented.

Not much will be said here about the variates that enter into economic models. In the example of the next section they are composed of transactions (receipts and payments) expressed in money terms and rates of taxation. For other purposes it may be necessary to introduce quantities of goods and services bought or sold, prices and interest rates, stocks of all kinds, and indeed any other variate, whether economic or not, which is closely associated with the subject-matter of the inquiry.

More must be said on the nature of the relationships that are used in the model. These may take the form of (I) definitions, (II) institutional or behaviouristic equations, and (III) assumptions. The last category may be further subdivided into (i) values ascribed to variates which enter the model but whose laws of variation do not form part of the model, and (ii) equilibrium conditions, for example that the budget deficit is zero, introduced in order to limit, either by hypothesis or with a view to intended policy, the field of variation of the model. Let us consider these different forms of relationship in greater detail.

First, the freedom of a set of variates to vary independently may be restricted by the fact that some of the variates (such as the elements of personal outlay) are so defined as to add up to another set of variates (the elements of personal income). All

[1] See *Factor Analysis* (1941), by Holzinger and Harman, p. 7.

the definitions of the example in the next section are either of this form, depending essentially on the balancing property of individual accounts, or simply state, for example, that total saving is equal to the sum of the saving out of different types of income. In other cases different forms of definition will arise, such as the obvious one that for any commodity the value bought (or sold) is equal to the quantity bought multiplied by the price.

These relationships are nothing more than the definitions introduced by the investigator as a result of the concepts with which he works. They are largely independent of the economic system which is being studied, and contain no adjustable parameters. They may be linear, as in the present case, or non-linear, as in the last example given above.[1]

The second type of relationship is quite different, and represents some aspect of the economic system studied. While it will be formulated as an hypothesis, and theory will suggest its general character, observations are capable of rejecting the hypothesis and, if it is not rejected, are needed to provide information on the numerical value of the adjustable parameters that enter into it. An example is the propensity to consume relation. This is a statement of the hypothesis that consumption depends on income. But in fact consumption, even for a whole community, may depend on other factors which are in principle independent of income, and even if it does not, may vary either a lot or a little with a given variation in income. Relationships of this kind involve adjustable parameters, and depend on observation for their validation.

The third type of relationship is essentially a condition imposed by the investigator. Its purpose may be either to assign a value to a variate which enters into a model but is not determined by it, or it may be to see what would happen if the model were to operate subject to certain constraints which for policy reasons it is desired to impose on the system of which the model is a representation. We shall meet both types of condition in the next section.

A distinction must be drawn between static and dynamic models. A static model is capable only of giving one value to each variate unless some of the conditions are changed from outside. A dynamic model, on the other hand, shows the way in which a situation will develop if the model is allowed to work without interference from outside. Models of the latter kind

[1] Non-linear relationships may frequently be closely approximated by a linear form. See, for example, *Statistical Testing of Business Cycle Theories*, Vol. II (1939), by J. Tinbergen, p. 30.

have been studied in economics by Frisch,[1] Tinbergen [2] and others,[3] and are useful in principle for discovering the quantitative effects of different lines of policy when they are allowed to develop, and in finding out how far a proposed line of policy will lead eventually to a steady-state position. The model of the next section is static, the numerical values attached to some of its variates being treated as independent of the changes that take place in others.

III. Mr. Kaldor's Model

This section is devoted to an exposition and discussion of the model which appears to underlie Mr. Kaldor's work cited above. Its object is twofold. First it seems useful to set out in a precise way the basis of Mr. Kaldor's valuable contribution to statistical economics, with the objects of understanding it more clearly, of being in a position to criticise it constructively and of seeing what alterations are needed if slightly different problems are to be solved. Second, it is the belief of the writers that models of this kind are about to assume considerable practical importance, since a statistical as opposed to an intuitive approach to economic problems must inevitably make use of this kind of analysis. It is therefore important that the many technical problems, economic and statistical, should be fully discussed. Mr. Kaldor's work offers a valuable example of the type of problem that arises, and many of the remarks which follow are not to be regarded as a criticism of what he has done, but rather as a survey of some of the improvements in available information and technique that need to be introduced if his approach is to be extended and refined.

We shall now set out to the best of our ability (*a*) the symbols to be employed, (*b*) the structure of the relationships and (*c*) the numerical solutions and the steps in the reasoning.

(a) *The Symbols*

The symbols given below are used in this paper for the variable elements in the analysis. In general, the definitions adopted

[1] See "Propagation and Impulse Problems in Dynamic Economics" in *Economic Essays in Honour of Gustav Cassel* (1933), pp. 171–205.

[2] See *Statistical Testing of Business-Cycle Theories*. I. *A Method and its Application to Investment Activity* (1939). II. *Business Cycles in the United States of America* 1919–1932 (1939).

[3] *E.g.*, L. R. Klein, whose recent study of the United States economy has been circulated in mimeographed form.

follow those given in the national income White Paper,[1] although there are a few small differences.

P = rent of land and buildings, interest and profit arising in the private sector paid out to persons
U = business saving
G = miscellaneous income from public property, etc.
L = salaries
W = wages
F = income of the armed forces
Y = net national income at factor cost
C = consumption at factor cost
X = government expenditure on goods and services at factor cost
V = private domestic capital formation at factor cost
B = balance of payments
N = national debt interest paid to the private sector of the economy
T = other transfer payments (social income)
S = private saving "at factor cost", excluding death duties
D = direct tax accruals of the private sector, excluding death duties
E = death duties
I = indirect tax accruals of the private sector
Z = net lending of public authorities
Q = exports of goods and services at factor cost
M = net income from overseas assets
A = imports of goods and services
λ = proportionate change in the rate of direct taxation
μ = proportionate change in the rate of indirect taxation

(b) *The Structure of the Relationships*

In this section we set out the equations [2] which underlie the description of the various routes to full employment discussed by Mr. Kaldor. These are numbered, and the contribution of

[1] The issue current when Mr. Kaldor was writing was Cmd. 6520 (April 1944). The latest issue is entitled *National Income and Expenditure of the United Kingdom 1938–1945*, Cmd. 6784 (April 1946).

[2] Not all the constants in the equations are given explicitly by Mr. Kaldor: in general, in equations of the form $y = a + bx$, b is given and a has had to be calculated from the value of b and other figures explicitly set out. Since b is usually given only to two significant figures, it is not to be expected that the equations we have inferred from these constants will exactly reproduce Mr. Kaldor's results.

each set of equations to the total number of variates and independent equations is stated. Equations (9) to (12) contribute only three independent equations, since if they are considered together with (1) one of them can be obtained by difference.

	Number of variates.	Number of independent equations.
I. Definitions.		
(1) $P + U + G + L + W + F = Y$		
(2) $C + X + V + B = Y$		
(3) $Y + N + T - G = C + S + D + E + I$		
(4) $D + E + I + G = X + T + N + Z$		
(5) $Q + M - A = B$		
(6) $\Sigma D_i = D \; (i = (p + n), u, l, w \text{ and } (f + t))$		
(7) $\Sigma I_i = I \; (i = (p + n), u, l, w, (f + t) \text{ and } q)$		
(8) $\Sigma S_i = S \; (i = (p + n), u, l, w \text{ and } (f + t))$	37	8
II. Institutional equations.		
(9) $P = 86 + 0{\cdot}28Y$		
(10) $U + G = -705 + 0{\cdot}23Y$		
(11) $L = 492 + 0{\cdot}13Y$		
(12) $W + F = 127 + 0{\cdot}36Y$	0	3
(13) $D_{p+n} = (1 + \lambda)\,[-278 + 0{\cdot}35\,(\Gamma + N)]$		
(14) $D_u = (1 + \lambda)\,(-20 + 0{\cdot}33U)$		
(15) $D_l = (1 + \lambda)\,(-60 + 0{\cdot}10L)$		
(16) $D_w = (1 + \lambda)\,(-28 + 0{\cdot}02W)$	1	4
(17) $I_{p+n} = (1 + \mu)\,[61 + 0{\cdot}04\,(P + N)]$		
(18) $I_u = (1 + \mu)\,(2 + 0{\cdot}02U)$		
(19) $I_l = (1 + \mu)\,(50 + 0{\cdot}10L)$		
(20) $I_w = (1 + \mu)\,(59 + 0{\cdot}145W)$	1	4
(21) $S_{p+n} + E = -167 + 0{\cdot}25\,(P + N - D_{p+n} - I_{p+n})$		
(22) $S_u = 0 + 1{\cdot}00\,(U - D_u - I_u)$		
(23) $S_l = -53 + 0{\cdot}15\,(L - D_l - I_l)$		
(24) $S_w = -51 + 0{\cdot}10\,(W - D_w - I_w)$	0	4
(25) $A = 74 + 0{\cdot}15Y$	0	1
III. Assumptions.		
(26) $E = 90$		
(27) $F = 80$		
(28) $G = 40$		
(29) $M = 200$		
(30) $N = 200$		
(31) $Q = 520$		
(32) $T = 275$		
(33) $V = 460$		
(34) $Y = 5{,}175$		
(35) $D_{f+t} = 0$		
(36) $I_{f+t} = 40\,(1 + \mu)$		
(37) $I_q = 0$		
(38) $S_{f+t} = 0$	0	13
	39	37

Two more equations are needed to close the system, and it is in terms of the alternative possibilities here that the different

routes to full employment are defined. The combinations discussed by Mr. Kaldor are set out below :

Route I.	II.	IIa.	III.	IIIa.	IV.
(39) $\lambda = 0$ (40) $\mu = 0$	(41) $\lambda = \mu$ (42) $Z = 0$	(40) $\mu = 0$ (42) $Z = 0$	(41) $\lambda = \mu$ (43) $X = 800$	(39) $\lambda = 0$ (43) $X = 800$	(42) $Z = 0$ (43) $X = 800$

(c) *The Numerical Solutions*

In the last section we have attempted to reconstruct the form of Mr. Kaldor's model; here we shall try to show step by step the way in which the conclusions follow from the model. Insofar as the numerical results obtained here agree with those originally given by Mr. Kaldor, we may conclude that the reconstruction is correct. One or two small difficulties will be found to arise, and these will be remarked on below.

The line of approach is as follows. The potential net national income, Y, is given independently of this analysis by (34). This value is then inserted in (9) to (12), and the following values are obtained for the shares going to the different factors of production. Where differences are trivial the figures in the book are given to avoid confusion.

$$\begin{aligned} P &= 1{,}535 \\ U + G &= \phantom{1{,}}485 \\ L &= 1{,}165 \\ W + F &= 1{,}990 \\ \hline Y &= \underline{\underline{5{,}175}} \end{aligned}$$

Next the other three main sets of institutional equations are simplified and reduced in number by first substituting for the different types of income in (13) to (16) and (17) to (20), and then substituting for the tax payments out of these incomes in (21) to (24). We now have tax payments and saving out of each type of income in terms of the rates of direct and indirect taxation (λ and μ). When these equations for the different types of income are added and substituted in (6) to (8), we get three equations fundamental to the solution :

$$\begin{aligned} &\text{(i)} \quad D = 522\,(1 + \lambda) \\ &\text{(ii)} \quad I = 684\,(1 + \mu) \\ &\text{(iii)} \quad S = 553 - 218\lambda - 102\mu \end{aligned}$$

Equation (3) may be re-written

$$S = Y + N + T - C - (D + E' + I + G)$$

Substitution for the term in brackets from (4) gives

$$S = (Y - C - X) - Z$$

and substituting from (2) for the term in brackets again, we get

$$\text{(iv) } S = V + B - Z,$$

an identity that, owing to equations (25) and (5) and assumptions (33) and (34) yields

$$\text{(v) } Z = 330 - S$$

Combination of (iii) and (v) enables Z to be written in terms of λ and μ, and substituting in (4) from this for Z, for D and I (from (i) and (ii)) and for E, G, N and T (from (26), (28), (30) and (32)) we can express X also in terms of λ and μ.

The two resulting equations :

$$\text{(vi) } Z = -\ 223 + 218\lambda + 102\mu$$

and $$\text{(vii) } X = 1{,}084 + 304\lambda + 582\mu$$

contain four variates, two of which are determined by each of the alternative pairs of equations of equilibrium. Solution of the equations gives values for the other two, and the remaining variates D, I, E, C and S can easily be found by substitution.

For convenience of reference the numerical results given by the equations are given below in tabular form.

Route	I.	II.	IIa.	III.	IIIa.	IV.
Variate						
λ	0	0·70	1·02	− 0·32	0	1·66
μ	0	0·70	0	− 0·32	− 0·49	− 1·35
Z	− 223	0	0	− 326	− 273	0
X	1,084	1,701	1,395	800	800	800
D	522	886	1,056	355	522	1,386
I	684	1,161	684	465	350	− 241
C	3,761	3,143	3,450	4,044	4,045	4,045
S	553	330	330	656	603	330

It will be seen that in most cases the figures are not very different from those given by Mr. Kaldor, and, as explained above, exact correspondence is not to be expected in view of rounding-off errors. An exception to this general statement is that the values for λ (though not those for μ) given above would appear to show greater differences from those obtained by Mr. Kaldor than can be explained by such errors. Mr. Kaldor has 0·66 and 0·94 for routes II and IIa respectively, where we have 0·70 and 1·02. On the other hand, our answers for the other variates are similar to Mr. Kaldor's. The main explanation for

these discrepancies lies in the fact that, despite the statements in paragraph 17, death duties have been treated exactly like other direct taxes. This means that equations (21) and (26) become

$$(21\text{a})\ S_{p+n} = -235 + 0{\cdot}25\,(P + N - E - D_{p+n} - I_{p+n})$$

and

$$(26\text{a})\ E = 90\,(1 + \lambda).$$

It is also understood that in Mr. Kaldor's calculations the indirect taxes entering into equation (36) were assumed constant so that for this equation there must be substituted

$$(36\text{a})\ I_{f+t} = 40.$$

These changes require that the derived equations for Z and X be altered to

$$(\text{via})\ Z = -233 + 241\lambda + 102\mu$$
$$(\text{viia})\ X = 1{,}094 + 371\lambda + 542\mu$$

with the following effect on E and the variates listed above.

Route	I.	II.	IIa.	III.	IIIa.	IV.
Variate						
λ	0	0·68	0·97	−0·32	0	1·68
μ	0	0·68	0	−0·32	−0·54	−1·70
Z	−233	0	0	−343	−288	0
X	1,094	1,714	1,453	800	800	800
D	522	877	1,027	354	522	1,401
I	684	1,121	684	477	335	−488
C	3,751	3,131	3,392	4,045	4,045	4,125
S	563	330	330	673	618	330
E	90	151	177	61	90	242

A comparison of this table with the results given by Mr. Kaldor in paragraph 23 shows a fairly close agreement. A comparison of the two tables given here shows that the alternative sets of assumptions as to the form of equations (21), (26) and (36) lead to similar results except in cases where the policy pursued involves a large change in rates of taxation. This is especially the case in route IV.

IV. Problems Arising from Models

The following brief discussion of the problems arising in this field [1] may perhaps conveniently be grouped under questions of interpretation and those of estimation. The former are mainly problems for the economist, the latter for the statistician.

[1] For a more detailed treatment of some of the problems arising in Mr. Kaldor's model and its American counterparts, see "Model-Building and Fiscal Policy," by A. G. Hart, in *American Economic Review*, Vol. XXXV, No. 4, September 1945, pp. 531–58.

(a) *Problems of Interpretation*

(1) Models of the kind discussed above are static and partial, being concerned principally with the responses of the economic system to changes in the sphere of fiscal policy. Equations of types (I) and (II) (definitions and behaviouristic equations) determine the unknown values of the variates except insofar as this is done by equations of type (III) (assumptions). Once determined, these values cannot change except as the result of a further change in the assumptions; they are stable equilibrium values. Granted that the assumptions are all capable of being realized simultaneously, the model provides a means of finding a valid approximation to the implied values of the remaining variates.

(2) It is not always obvious that the assumptions are all capable of being realized simultaneously. For this to be so there must be some further relationships capable of determining the assumed variates in the manner assumed either as a result of the automatic working of the system or as a result of policy decisions of a kind not introduced into the system itself.

This situation arises with particular force in the present instance in the case of private capital formation. It does not seem reasonable to assume a given level of private capital formation independently of the level of, say, expenditure by public authorities on goods and services or of direct taxation. This difficulty, arising essentially out of the difficulty of introducing the variates controlling capital formation quantitatively into the model, can to some extent be avoided by working out the implications of the model on several different assumptions as to the level of capital formation. Where this is done it is desirable that a view should be expressed as to which assumption is thought to be most compatible with each of the different routes to full employment. This involves saying something about relationships or policy decisions or both which lie outside the model itself. In this way incomplete information which cannot conveniently be used for extending the model can be brought to bear on the final statement of the probable outcome of alternative policies.

(3) While the type of model under discussion provides a stable equilibrium solution, it perhaps comes closer in practice to giving a first approximation to the short-term position. The reason for this is that many of the parameters in the equations of type (II) are based on the evidence of data for the period before the war the variations in which were dominated by deviations from equilibrium. This is frequently the case even where the

estimates of the parameters are not based on regression analysis, since in these cases also it appears that the values are intended to reflect relationships when the variates deviate from stable values. At the same time these relationships are fitted into a system in which some of the variates—*e.g.*, national income—are fixed at a certain level. Under such conditions of stability, relationships, like the propensity to save, would probably take on a form different from that which could be observed over a period of instability. In other words, the marginal propensity to save might be much smaller if the public expected stable conditions than it was in a period when all their experience led them to expect that conditions would be highly variable.

(4) It may be noted in passing that the equations are normally treated as exact equations, although they are, of course, only approximate. As a consequence the answers obtained represent hypothetical projections based on the assumption that the usual disturbances are not present, rather than forecasts of the most probable values to be expected.[1]

(5) Just as we considered under (2) variates that enter the model explicitly, but whose value is determined by assumption, so in any model there will necessarily be a number of variates similar in kind to those included which do not enter the model at all. This is true in the present case of such variates as interest rates, prices and the quantity of money and other financial claims. The uses of the model are therefore restricted to situations in which these other variates are irrelevant, except where it can be assumed that they can be controlled through policies which need not be specified.

(b) *Problems of Estimation*

(1) Model-building, in a degree that varies from country to country, comes up against the inadequacy of existing statistical material. Since the models are principally an aid to clear and consistent thinking, it is not a valid criticism that in part they involve guesswork. Indeed, it is essential in this kind of work to make the best use of all information available, however obtained, rather than to restrict oneself to that part of the field which can be covered by highly accurate estimates. The corollary of this is that a point will usually come at which the investigator has to warn the reader that certain estimates have had to be made to

[1] For an elaboration of this point see "The Probability Approach in Econometrics," by T. Haavelmo, especially pp. 55–9. This paper appeared as a supplement to *Econometrica*, volume 12, July 1944.

complete the story, but that further information is needed before reliable results can be obtained. In many cases it will happen that broad estimates are good enough, and that no practical difference would be made by further refinement. For example, in estimating revenue from direct taxes in the United Kingdom it appears to be important to know how income is divided between earnings from work and property, but of comparatively minor importance to know the composition of these two classes.

(2) Of the methods available for estimating past relationships the most important is regression analysis of time series. The difficulties here, fully recognised by Mr. Kaldor, arise partly from lack of data, partly in formulating the relationships in the system and partly in interpretation and testing significance.[1] An example occurs in the estimation of the factor shares from total money income. The conclusions are considerably affected by whether or not the experience of the war period is included. In one way it seems more reasonable to work with peace-time experience, but against this there must be set the fact that if war-time experience is omitted a very considerable degree of extrapolation is involved and also a significant jump from immediate post-war experience.

(3) A less obvious problem arises from the fact that we are here dealing with a system of relationships. It can be shown that, where in such a case the coefficients in all the equations of type (II) are estimated from regression equations based on the method of least squares, bias will in general be introduced into the estimates of the coefficients if each equation is treated on its own. It would be inappropriate here to do more than mention this problem and refer to the growing literature on the subject.[2]

(4) A problem of a different kind arises where the parameters in a relationship have to be estimated in circumstances in which some sort of average relationship can be obtained, but nothing is known from observation of changes in the relationship at different levels of one of the variates. An example in the present case is the propensity to save relationship. Here it is recognised that from theoretical considerations it is to be expected that the

[1] For a more detailed discussion on some of these problems see "The Analysis of Market Demand," by R. Stone, in *J.R.S.S.*, vol. CVIII, Pts. III–IV, 1945, pp. 286–382, especially sections 2 and 3.

[2] See, for example, "The Statistical Implications of a System of Simultaneous Equations," by T. Haavelmo, in *Econometrica*, vol. II, January 1943, pp. 1–12, and "Statistical Estimation of Simultaneous Economic Relations," by T. Koopmans, in *Journal of the American Statistical Association*, vol. 40, December 1945, pp. 448–66.

partial derivative of saving with respect to income is probably an increasing function of income. This being so it would be desirable to recognise this fact in the relationship used except in so far as the analysis is intended either as a pure illustration or as an indication of what would be the outcome under conditions in which the adjustment required was the least that was at all plausible. It may be objected that to invent plausible coefficients is to introduce the personal factor too prominently into the analysis, but in fact it is only to recognise that available observations must be supplemented by considerations of theory and judgement.

(5) The question discussed in the preceding paragraph is really only one aspect of the problem of new situations. In projecting past experience into the future one can only assume that the future will be like the past in the relevant particulars, except in so far as there is evidence of dissimilarities. One aspect of the matter which seems likely to be important, and which is common to a number of branches of applied economics, is the change introduced during the war by the considerable shift in the distribution of disposable income. Here is a subject on which more light is needed both in this connection and for study of the demand for individual commodities.

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THE SOCIAL SECURITY MOVEMENT IN INDIA

THE social security movement in India had been extremely slow in the period preceding the outbreak of World War II—so much so that no attempt has yet been made to trace its course and study the nature of its progress. But the period of the World War II witnessed a rapid progress of the movement; and what has been accomplished recently, especially since 1943, far exceeds the measure of realisation during the first forty-two years of the present century. It is only by looking back from the present heights that the growth of the movement in the early period, modest as it has been, becomes perceptible and submits itself to a connected historical treatment. A perusal of its development in the earlier stages is highly valuable, if only because it will make possible a correct appraisal of its swift progress during the last three years, as also of its future possibilities. The recent achievement, though still far behind the ideal position, is very gratifying when it is seen against the indifferent landscape of the earlier decades. But in the general atmosphere of considerable discontent that prevails in India, a gulf between the actual and the ideal is liable to be unfavourably interpreted; and it is necessary to put the recent progress of the movement in proper perspective with regard to the past as well as the future.

We may study the growth of the social security movement in India in the following four periods: (I) Pre-1918 Period: Period of Inactivity; (II) Inter-War Period (1918–1939): Period of Agitation; (III) Second World War Period (1939–1945): Period of Rapid Plan-Making; and (IV) Post-War Period (1945–): Period of Action.

I

PRE-1918 PERIOD: PERIOD OF INACTIVITY

2. Though the first sickness insurance law in the world which heralded the advent of social security was passed as early as June 15, 1883, the social security movement in India began nearly half a century later. It may be said to have begun, in the strict sense of the term, in March 1928, when the Indian Legislative Assembly considered the question of the ratification of the two draft Conventions and one Recommendation relating to sickness

insurance, which the International Labour Conference had passed at its Tenth Session in 1927. The late beginning of the movement in India is not surprising. Social security as a measure of income-maintenance was originally designed to help the industrial worker, and though in theory its scope has now been widened so as to be co-terminous with the population as a whole, save perhaps the idle rich, it still continues to be confined mainly to industrial workers in a majority of the progressive countries of the world, U.S.S.R. and New Zealand being notable exceptions. Mechanised industrialisation in India, the origin of which can be traced as far back as 1838, when the first cotton mill was started near Calcutta, made progress in any appreciable measure much later than in the West; and it was therefore natural that the movement of social security should begin in the former considerably later than in the highly industrialised countries of to-day. In fact, the statutory regulation and protection of Indian labour began in the modern sense mainly after World War I. Before this date the important labour laws that had been passed were the Indian Factories Act, the Indian Mines Act, the Workmen's Breach of Contract Act, the Tea District Emigration Act, the Madras Planters' Act, and so forth, which were of a primitive nature, and were found unsatisfactory in several respects. The important and useful laws that now constitute the Indian Labour Code came in the wake of peace established after the cessation of the 1914–18 hostilities and of the formation of the International Labour Organisation (which gave a new speed to the statutory protection of labour throughout the world), as witness the Indian Workmen's Compensation Act of 1923, the Indian Mines Act of 1923, the Indian Boilers Act of 1923, the Indian Trade Unions Act of 1926, the Trade Disputes Act of 1929, the Indian Children (Pledging of Labour) Act of 1933, the Indian Dock Labourers' Act of 1934, the Payment of Wages Act of 1936, the Employment of Children Act of 1938, and a series of valuable labour laws passed by several Indian Provinces. In such a set-up of limited industrial progress, when the problem of industrial labour was neither prominent nor pressing in the eyes of the Government and the public, and was eclipsed by other more important issues, and when, indeed, the theory and practice of social security in the world were in infancy, the social security movement could not possibly take root and thrive. The period preceding 1918 is therefore conspicuous by the complete absence of any social security movement in India.

II

Inter-War Period (1918–1939): Period of Agitation

3. The inter-war period saw considerable industrialisation of the country, resulting in an appreciable increase in the number of factory workers. The labour problems began to receive attention on the part of the authorities and the public. The international standards set by the International Labour Organisation made India realise the grave deficiencies in her system of labour regulation and protection, and efforts were made to remove them as far as possible. Organisation among workers also grew up, and they began to make a demand for the amelioration of their conditions. Attempts now began to make some provision for the so-called social contingencies; and though the approach was not always of the nature of social insurance, nor was it of a unified and comprehensive character, the social security movement did certainly begin to take root. Several competent bodies, official and non-official, thought of social insurance as a measure to provide against social contingencies, and if they did not in all cases recommend its immediate introduction in India, it was mainly because in their opinion the time was not opportune for such a step. The protection provided during this period against some of the social risks fell, in all cases, short of social insurance status.

4. The first social contingency against which provision was made during the inter-war period was "employment injuries." During the first period of our survey compensation could be claimed under the Fatal Accidents Act of 1855 by the heirs of the workers dying as a result of industrial accidents. But nothing could be claimed in case of non-fatal injures; and even in the case of fatal accidents factory-owners could be held responsible for compensation only if the accidents were caused by their own personal negligence. The ignorance and illiteracy of the workers, their poverty, the fear of unemployment arising out of their taking an action against their employers, and such other factors further curtailed the benefits of this Act. Efforts made to improve matters in this regard in 1884 and 1910 proved futile; and it was only in the aftermath of World War I, when a wave of industrial strikes overtook the country, that the question of workmen's compensation was seriously taken up. As a stop-gap measure a better provision was inserted in the Indian Factories Act on this subject at the time of its amendment in 1922; but a Workmen's

Compensation Bill was introduced in the Indian Legislative Assembly only one year later, and became an Act in that very year.

This Act is generally regarded in India as the first social insurance measure to be introduced in the country. The notion is, however, incorrect. The provision made thereunder is not of the nature of social insurance; and this, indeed, is the root cause of many of the defects from which it has been found to suffer in actual practice. This Act places the liability of compensating the worker in respect of industrial accidents and diseases on the employer alone; and does not involve an element of commercial insurance, much less of social insurance. There seems to be no valid reason why the employer should be made to bear the cost of compensation in its entirety when in many cases he could not have prevented the occurrence of the accident, and why it should not be covered, like any other social risk, in a tripartite manner. So long as this feature continues, the tendency on the part of the employers to evade the employment injuries liability is bound to persist.

5. The second contingency against which provision was made during this period was maternity. But whereas the Workmen's Compensation Act was an all-India piece of legislation passed by the Indian Legislature, maternity benefit legislation was passed by certain Provincial Legislatures only. The Presidency of Bombay was the first to pass a Maternity Benefit Act, in 1929; and the Central Province adopted the measure in 1930. The Royal Commission on Labour, while reporting in 1931, expressed approval of these measures and observed that "the time is ripe for the introduction of legislation throughout India making a maternity benefit scheme compulsory in respect of women permanently employed in industrial establishments on full-time processes" (Report, p. 263). They endorsed the idea of applying the social insurance principle to maternity, but opined that in the absence of a sickness insurance scheme the operation of a maternity benefit insurance scheme would be disproportionately costly, and therefore impracticable. They did not face the question whether the legislation should be passed on a provincial or an all-India basis, which we believe was very relevant at that stage. However, the examples of Bombay and C.P. were soon followed by a number of other Provinces, and such legislation was in force in Sind, Ajmer-Merwara, Madras, Delhi and U.P. by the end of the period under survey. This legislation also follows the principle of the Workmen's Compensation Act of placing the liability for compensation or benefit solely on employers, with

the result that it has been found to be as much defective in practice. It has also been often designated in India as a social insurance measure, which it is not.

6. The third measure that was adopted during this period was Chapter VIII of the Motor Vehicles Act of 1939, whereby provision was made for the compensation of the members of the public dying or receiving bodily injury by the use of motor vehicles in a public place. The Act itself came into force on July 1, 1939, but the enforcement of its provisions concerning third-party liability insurance (Chapter VIII) was put off till July 1, 1943. In 1943, however, the war was in full swing, and there were several difficulties in the way of the enforcement of this Chapter; hence its enforcement was once again postponed till July 1, 1946. According to this measure, all the motor-owners must take third-party risk insurance policies from private insurers as a condition precedent to the use of their vehicles in a public place. This legislative measure is a step further towards the road of social insurance, as it employs the principle of commercial insurance to risk coverage, as against the principle of employers' liability. Moreover, it is not confined to industrial workers alone, but covers the population as a whole, which is significant. Finally, it does not cover an industrial risk, but a non-industrial accident risk, and is therefore a beginning in an entirely new direction. However, the coverage of accidents, industrial and non-industrial, through the device of social insurance is an essential ingredient of a complete system of social security; and this measure falls short of the social security status.

7. But while none of the three schemes discussed above reaches the level of social insurance, they certainly did prepare the ground for the application of this principle thereto in the near future. They may therefore be regarded as representing the agitation that was quietly going on in India for the establishment of a social security system. In addition to them, efforts were made to frame and introduce a health insurance scheme for the industrial workers during the period under survey. This question, as observed earlier, first arose in India in 1928. The Government of India then came to the conclusion that conditions were not favourable for the introduction of health insurance in India; but they expressed their full sympathy with the suggestion, and were anxious that such a scheme should be introduced as early as suitable conditions arose or could be created. They therefore approached the Provincial Governments with a view to obtaining their views on the subject. Several Provincial Governments

appointed committees to go into the question, but their reports were generally unsatisfactory, as were the replies of the Provincial Governments. They mentioned several difficulties in the way, but their chief ground for opposition was the likely repercussions of the measure on their purses.

However, the Royal Commission on Labour which reported in 1931 did not regard these difficulties as so serious as to forbid the preparation of a suitable scheme, and made some valuable suggestions in this regard. The most important issue in this connection has been the collection of the morbidity statistics, which do not exist in an adequate quantity in India, and are not in any case of a suitable character. They therefore recommended that a few employers should agree to make experiments in the granting of sickness benefits and maintain records of their experience. Statistics collected by those organisations which already have sickness insurance schemes of their own in operation should also be secured. After adequate statistical material has been collected, the question of framing schemes should be referred to a carefully selected formal committee, who might be instructed to examine the material and to make recommendations for the institution, if and where possible, of definite schemes. Such schemes could operate on the basis of single establishments where these were large enough, and small establishments might be combined for the purpose. By the time the statistical material has been collected it may be possible for a more complete scheme to be devised. They also provided a rough and tentative health insurance scheme. Theirs was the first health insurance scheme to be prepared in India; and though it was never put into practice, it certainly helped to give to the matter a more practical outlook.

The Government of India, however, decided to handle the problem from the statistical end, and took steps to prepare questionnaires and forms for the collection of morbidity statistics and for the preparation of cards recording the case-history of workers, with the assistance of the appropriate authority in England. But the experience cards were found to be too complicated to be easily followed in India, and this line of approach was abandoned. They then resolved to follow the recommendation of the Royal Commission, and suggested to the Provinces that an actual scheme of health insurance might be introduced in individual establishments. But the reaction of the Provinces was again discouraging and unsympathetic; and the Government of India came to the conclusion in May 1937 that there was an

absence of any real demand for health insurance on the part of the Provincial Governments and employers, and indeed of workers if they were to be asked to contribute.

About a year afterwards, in April 1938, the Cawnpore Labour Enquiry Committee, which was appointed to examine and report on the conditions of life and work of workers employed in Cawnpore factories, supported the introduction of health insurance, and declared that the difficulties in its way could be surmounted and that the scheme could be worked. It thus gave moral support to the repeated efforts of the Government of India to get a scheme of health insurance prepared and introduced in the country. Nothing more was, however, done in this regard till the outbreak of World War II. But the agitation for health insurance was carried to such a point that it came to fruition in the following period.

8. Attention was also paid during the inter-war period to the problem of unemployment insurance for industrial workers. The Bombay Strike Enquiry (Fawcett) Committee, which was appointed on October 13, 1928, to go into the causes of the strike that had recently taken place in Bombay, with a view to find out a basis of settlement, considered the question of unemployment resulting from the adoption of efficiency schemes, and recommended a scheme for the payment of a gratuity to a worker amounting to four weeks' or six weeks' wages, according to his length of service, out of an "Out-of-work Donation Fund" to be formed on a voluntary basis by employers' and workers' contributions. This scheme was, however, purely voluntary, and it is not surprising that practically no action was taken along this line. The Royal Commission on Labour, which was next to consider the matter, also declared that an unemployment insurance scheme could not be worked in India, mainly because the large labour turnover and migratory character of Indian labour made the risk incalculable. Consequently they endorsed the recommendation of the Fawcett Committee as regards unemployment caused by rationalisation, and recommended the extension of the famine relief scheme to cover general unemployment. The latter consisted in providing such work as slum clearance and road construction to the unemployed workers at a subsistence wage during a period of general unemployment. No action was, however, taken along these lines; and the appearance of suitable circumstances was awaited when the question of unemployment insurance might be appropriately tackled. The case for old age pension insurance also received little consideration and support. The

Royal Commission did not consider the issue at all, while the Cawnpore Labour Enquiry Committee merely recommended a contributory provident fund scheme.

9. From the point of view of the actual achievement of social security ideals, the above survey provides a disappointing picture. Legal provision was made against employment injuries throughout India, and against maternity in certain Provinces only; but in both the principle of employers' liability was adopted, and that of social insurance was not applied. In the sphere of third-party risks arising out of the use of motor vehicles in a public place, the scheme that was prepared failed to apply the principle of social insurance, and was handled merely as a branch of commercial insurance. Even so, this was not introduced. Some attention was certainly paid to health insurance, but the efforts of the Government of India did not succeed. Unemployment and old age pension insurance received little attention, and in no case did it rise to the level of social security, the general feeling being that the time was not ripe for their introduction. But an agitation for social insurance schemes had been created. The spadework done during this period served to help further growth in this line during the next period, the period of World War II, which achieved in the sphere of social security in India what the first four decades of the present century entirely failed to do.

III

World War II (1939–1945): Period of Rapid Plan-Making

10. The commencement of hostilities did not immediately improve the social security outlook in India. The tempo and character of progress witnessed in the preceding period continued almost unchanged for no less than three years till 1942, and nothing outstanding was done. At this stage the movement received great inspiration and encouragement from the work being done in some foreign countries in this connection. The publication of the Beveridge Report on British Social Insurance and Allied Services in 1942, of the Wagner-Murray-Dingell Bill in U.S.A. in 1943, of Marsh Plan (Report on Social Security) in Canada and so forth inspired the Government of India to march on the road of progress. Feverish talks regarding the building up of the Indian economy anew also stimulated activity in this line. The period of war witnessed rapid and revolutionary changes on all sides, and it was psychologically possible for India to take a path-breaking step in regard to social security. Considerable

progress in industrialisation had also been made, and the problems of labour had begun to loom large, so that when the question of social security was taken up, it found support from all directions. The substantial growth of the social security movement in India therefore commenced from the year 1943, when Professor B. P. Adarkar was appointed to frame a scheme of health insurance for the industrial workers of India.

11. Before 1943 the question of health insurance continued to be tossed hither and thither, now to elicit the willingness of the various interests involved in the matter, now to decide precedence between the obtaining of morbidity statistics and the introduction of an experimental scheme. When the First Conference of Labour Ministers met at New Delhi in January 1940 the Government of India brought the question of health insurance before it and the following conclusion was reached :

> The idea of a sickness benefit fund (is) appropriate and further action may be considered after the Government of India have ascertained how far employers and labour are willing to contribute compulsorily to the fund.

This resolution, though rathei indifferent, enabled the issue to be handled *de novo*. The reports of the two important labour enquiry committees appointed by the Governments of Behar and Bombay appeared at this stage, and lent the weight of their authority to the necessity for an early introduction of health insurance in India. The latter handled the issue from a very practical angle. It deprecated the whole host of difficulties that had been pointed out time and again as being in the way of the introduction of health insurance in India, and actually prepared a tentative health insurance scheme for introduction in the Bombay textile industry, which was the second scheme to be prepared in India. But this scheme was very rough, and even incomplete, and was only suggestive. Before it could be introduced it required considerable study and work in several important directions which the Committee was not expected to do and could not possibly do for want of time and expert assistance. The Bombay Government did not act along the recommended lines, and the Government of India, who later examined this scheme with a view to its introduction in the whole of India, found it, among other things, too complicated.

Only a few months after the publication of these reports a Labour Ministers' Conference met again in January 1941. By this time the atmosphere had become more favourable for the consideration of the proposal. The Provincial Governments

realised the need for the scheme, and considered the time suitable for its introduction. Workers were anxious to have the scheme in operation as early as possible and were prepared to contribute. Employers also sympathised with the idea and were not, on principle, against the idea of their contribution. The Government of India declared that it was not necessary to postpone the matter till after the war. Consequently, the Conference went into the whole question with readiness on all sides, and came to the conclusion that a preliminary actuarial examination should be undertaken, and that in the light of such an enquiry a scheme should be framed involving contributions from employers and workers and in no case from the Government. The actuarial examination, it was suggested, should be confined to a few specified industries.

The Second Labour Ministers' Conference had evidently handled the matter from the wrong end, because morbidity statistics in India are conspicuous by their absence and no actuarial examination could possibly yield any useful result. It was subsequently realised that while it is true that a scheme should be framed on actual morbidity statistics, the latter can come into existence only after a scheme has actually been in operation for some time. It was thus a hen-and-egg puzzle, and the problem was which should come first. The then Government Actuary, Mr. J. H. Thomas, opined, and very rightly, that it would be better to frame an actual scheme of health insurance on intelligent guesswork and give it a trial; later, when statistics had been collected and the scheme itself had worked for some time, it could be subsequently developed so as to be fit for application to the industry as a whole. This point of view was placed before the Third Labour Ministers' Conference in 1942, and a tentative scheme was also prepared by the Labour Department in this regard, mainly to provoke discussion.

The Third Labour Ministers' Conference decided that the State should guarantee an interest-free loan to the Fund to meet any budgetary deficit that might arise, to be repaid when there was a surplus; and that the scheme should in the first instance be applied to cotton and jute textiles and heavy engineering industries. It was further proposed that a small Committee of about three experts, including an actuary from the office of the Superintendent of Insurance, should be appointed to draw up a detailed scheme. This was accepted by the Government of India, with this difference, that they entrusted the work to an officer on special duty, who was to be assisted by the office of the Superintendent of Insurance and

a Panel of Advisers representing the employers and workers. In accordance with this decision, they appointed in March 1943 Professor B. P. Adarkar a special officer to frame a scheme of health insurance for the industrial workers. It was thus after a series of earnest efforts, covering a period from 1928 to 1945, that the Government of India succeeded in taking definite steps for the preparation of a complete and full-fledged health insurance scheme from the angle of its actual introduction in the country.

Professor B. P. Adarkar devoted about a year and a half to the preparation of his scheme, which he submitted to the Government of India on August 15, 1944. The Adarkar Scheme of Health Insurance is the first complete scheme belonging to the category of social insurance: it is the opening chapter of the history of social insurance in India. It is in full accord with the peculiar conditions of Indian labour, and incorporates the latest health insurance ideas of a theoretical and practical nature in so far as they suit India. It has been warmly welcomed by all the interests involved in the matter.

During the course of his Report, Professor Adarkar also examined, exhaustively and critically, the working of the Indian Workmen's Compensation Act and Maternity Benefit Acts, which are indeed borderline cases, and made a strong case for merging them in a unified system of health, maternity and employment injuries insurance. This Report was submitted for examination by two I.L.O. experts—Messrs. M. Stack and R. Rao—who were invited by the Government of India for the purpose, who not only almost wholly endorsed the recommendations of Professor Adarkar, but also expressed their agreement with him in regard to the provision of an integrated system of health, maternity and employment injuries insurance scheme. They modified his scheme so as to include in it the coverage of these two social risks as well. The modified Adarkar Scheme has already been discussed by the representatives of the Government of India with the various interests involved in the matter, and it has also been revised in the light of these discussions. The shape that it will ultimately take will remain a matter of speculation till an Act has been passed, which in all probability will soon be done. Compared to the background of the social security movement in India up to 1942, it is a remarkable achievement.

12. The above scheme covers factory labour only. Mine labour does not enjoy in India the same degree of statutory protection as is enjoyed by factory labour. It was therefore a step in the right direction that the Government of India passed

the Mines Maternity Benefit Act in 1941, whereby leave and cash benefit are given by the employer to the pregnant female worker for a certain period before and after child-birth. The Government of India went even further four years later, and took steps to apply the social insurance principle in this sphere. Professor B. P. Adarkar has also prepared a scheme of maternity insurance for mine labour in India; and it is hoped that the relevant legislation in this regard will soon be passed.

13. The problem of social security for maritime labour in India had gone by default in the pre-war period; and it is a matter of gratification that steps have now been taken in this direction as well. Before the war about 200,000 persons from India were employed as seamen, a figure which rose by no less than 50% during the war. The utter absence of social security for them was a matter of great hardship to them. It is therefore timely that, at the instance of the Government of India, Professor Adarkar has also made a social security scheme for Indian seamen. While full details of this scheme are still lacking, it is understood that it covers sickness, unemployment, injury and old age. The scheme was considered some time ago by the *ad hoc* Advisory Committee of Seamen. An I.L.O. expert on the subject, Dr. (Miss) Laura Bodman, also came to India to examine this scheme and gave her opinion thereon. Opinions of the organisations of seamen and shipping companies are being invited, and the final draft will soon be prepared, and perhaps introduced shortly afterwards.

14. While the above work in the direction of plan-making has been nearly completed, efforts have simultaneously been made to do considerable spadework and collect relevant facts and figures which might furnish a suitable basis for the framing of a complete social security plan for India. To remove this handicap, the Government of India appointed a Labour Investigation Committee as early as February 1944, under the chairmanship of Mr. D. V. Rege, I.C.S. The Committee has now been working for a period of about two years, and has undertaken several comprehensive regional inquiries regarding labour conditions. The Report, it is learnt, will soon be ready. This will be the first India-wide comprehensive enquiry into labour conditions of this country since the investigation of the Royal Commission on Labour; and though the range covered by this Committee will not be equally wide, there is no doubt that its Report will be very informative and valuable from the social security angle. After the submission of the Report by this Committee, which might happen at any time now, the Government propose to frame a Beveridge Plan for India.

This will bring India into line with other progressive countries of the world on the plane of plan-making in regard to social security.

15. Another remarkable event of the period under survey is the appointment of the Health Survey and Development (Bhore) Committee with a view to making a comprehensive and exhaustive survey of health conditions in India and recommending a scheme that should be adopted for ensuring satisfactory health to the people of the country. Good health has now come to be regarded as an essential element of good living, and it is universally desired that this should be guaranteed by the State to every citizen, rich or poor; and India, though proverbially poor, has endeavoured to keep abreast of this development. This Committee has also completed its comprehensive survey, the first of its kind in India, and its Report has now been submitted to the Government. Its Report is of great value, and has brought to the fore the leading problems concerning the maintenance of national health.

16. At the same time, Bengal, Punjab and Assam passed Maternity Benefit Acts in the years 1939, 1943 and 1944 respectively. It has also been announced that Chapter VIII of the Motor Vehicles Act of 1939 (relating to compulsory third-party risk insurance) will come into force with effect from July 1, 1946. As to the remaining branches of social security, not much work could be done during this period.

IV

Post-War Period (1945–): Period of Action

17. It is, however, clear from the preceding section that the social-security movement in India entered into a new phase during the period of the World War II, and history will record it to the credit of the hostilities that they created conditions wherein India not only began to think in terms of social security, but also prepared certain plans relating to some social risks. This development, in comparison with the past history of the movement, can only be described as revolutionary. We must, however, remember the deficiencies even on the plane of scheme-framing. India has yet to make a complete scheme of social security. She has not yet evolved a full picture of her social insurance structure: nothing beyond health, maternity and unemployment injury insurance has been done up till now. Work in the sphere of social assistance requires even more considerable efforts. But seeing

that in a country so unfortunately situated as India we cannot hope to introduce a complete system of social security by one stroke of the pen, and that preliminary steps have already been taken for the formulation of a complete system of social security in the shape of the Labour Investigation Committee, this is not a matter of so much concern. In any case, there is a persisting feeling in India that mere plans do not carry us far on the road of progress, and that what is really required is action along the lines indicated in the schemes already prepared or about to be finalised. Consequently, in the post-war period that now lies ahead the problem of action will assume the greatest importance.

18. In regard to this, the various limitations and hurdles in the way of the introduction of a full-fledged system of social security in India will have to be faced; and the speed of the further progress of the movement will depend on the extent to which they are overcome. The most important limitation in this regard is the financial one—the other difficulties can be removed with greater ease and facility—so much so that it is correct to state that the availability of finances will determine the future growth of this movement. Indian industries as a class are not yet able to stand on their own legs, and in view of the probable keenness of foreign competition with which they have once again begun to be confronted, their contribution-paying capacity must be taken to be of a limited order. The Indian workers are also poor, and cannot pay heavy contributions. The Government finances themselves are in none too prosperous a condition, and it is too much to hope that they will be able to participate in the realisation of a complete social security system on a generous scale. Unless therefore conditions suddenly change for the better, and individual, corporation and Government budgets begin getting more prosperous, as might happen if an economic plan is introduced in the country, it is almost certain that the establishment of a complete system of social security in India would take considerable time. The problem of economic planning has been before the country for some time past, and it is being realised that, for the time being at any rate, India cannot have a planned economy, though she may certainly hope to have some developmental schemes. The latter will allow the introduction of only such social insurance schemes as have already been prepared. It is expected that during 1946 or by 1947 India will have an integrated system of health, maternity and employment injuries insurance scheme for mine labour and a more comprehensive scheme for Indian seamen. The introduction of a comprehensive

national health drive as envisaged by the Bhore Health Committee is, however, a matter of grave doubt, because it would be an exceedingly costly project. But even this much of development, if realised, will be an impressive achievement in view of the previous history of the movement in India.

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JEREMY BENTHAM AS AN ECONOMIST

II. Bentham's Influence [1]

Bentham and the Classical School—Bentham and the Historical School—Bentham and the School of Marginal Utility.

In a letter to John Stuart Mill written in 1841, Auguste Comte expressed the conviction that Bentham must be regarded as "the main origin of what is called political economy" (*Lettres d'Auguste Comte à John Stuart Mill*, 1877, 4). This may sound a very odd and amazing assertion, as most books on the history of economic thought do not so much as mention Bentham's name. Yet there is a great deal of truth in Comte's statement, and Bentham himself would have heartily approved of it. "I was the spiritual father of Mill," he said (*Works*, ed. John Bowring, 1843, X, 498), "and Mill was the spiritual father of Ricardo, so that Ricardo was my spiritual grandson." The claim as it stands is certainly exaggerated; it would be nugatory to insist on Smith's share in the paternity of classical economics; but there is undoubtedly a strong streak of the Benthamite spirit in Ricardo's thought, and in all classical economists.

It is not necessary here to furnish concrete proof of the deep indebtedness of Ricardo and his school to Bentham and his philosophy: the identity of outlook is obvious to every reader of the *Principles of Political Economy* or Mill's *Elements*. If it is permitted to use modern jargon, the matter can be summed up by saying that Bentham and the Ricardians had a common ideology. They shared the belief that man is essentially a selfish animal; that it is useless to fight that selfishness, and unnecessary at the same time, because, where freedom is guaranteed, a conflict between personal and public welfare is precluded by the admirable mechanism of modern market relations; that this mechanism must not be clogged by governmental interference; and that it

[1] The present paper is a sequel to, or rather the second part of, the study of Jeremy Bentham's economic thought published by Dr. Stark in this Journal in April 1941. In the meantime, Dr. Stark has made a thorough investigation of Bentham's unpublished manuscripts on economic matters, and prepared a critical edition of them which will be published under the aegis of the Royal Economic Society in the near future. This article is based entirely on Bentham's printed work, but its conclusions have been confirmed in all points, and invalidated in none, by the study of the unprinted material.

will work the better, the more equality there is in society, because the free play of equal forces will lead to the most sound and satisfactory equilibrium. Ricardo clothed these doctrines into the stern forms of economic theory: Bentham developed their implications in a host of philosophical, psychological, jurisprudential, educational and political writings. Their works are complementary, flesh of one flesh and blood of one blood.

Still, though Ricardo was a Benthamite, Bentham was not exclusively a Ricardian. There are many undercurrents in his thought which foreshadow later developments in economics and sociology, and these, though less obvious, are for that very reason all the more interesting and worthy of close consideration.

The generation which followed upon Nassau Senior and the younger Mill was not inclined to do Jeremy Bentham justice. Adolf Held, in his highly characteristic work *Zwei Bücher zur socialen Geschichte Englands*, calls him a typical "Manchester man" (cf. esp. 263), and this description is an implicit denunciation. This adverse judgment pronounced by the historico-ethical school has stuck, and many who should know better have thoughtlessly repeated it.

Now, what characterises the typical Manchester man as Adolf Held and his followers envisaged him, is the conviction that the system of full economic liberty, as being in harmony with nature and reason, is always and everywhere unconditionally the best. In opposition to this view the historical movement upheld the opinion that no principle can be called absolutely the best, but that different times and countries demand different forms of economic and social, political and technical organisation. At the time when Bentham finished his economic writings, the conflict between absolutism and relativism had not yet reached the stage of open conflict, but a deeper study of his doctrine proves that he would by no means have taken exclusively the part of "perpetualism" and "universalism". What led Held to his erroneous judgment is the fact that Bentham stood for extreme liberalism; but this liberalism was to him no absolute ideal. He wrote in England, and only for England, or at least for England and her equals (I, 171).

"Among these several classes, *agenda*, *sponte acta*, and *non-agenda*, the distribution of the imaginable stock of institutions will differ in a very considerable degree, according to the different circumstances of the several political com-

munities. . . . The greater the degree of opulence, the greater the list of *sponte acta*—the less, therefore, that of *agenda*. In England, abundance of useful things are done by individuals, which in other countries are done either by government, or not at all. . . . In Russia, under Peter the Great, the list of *sponte acta* being a blank, that of *agenda* was proportionally abundant" (III, 35).

The fundamental idea of historism lies in these words: the idea that the principle of perfect abstinence of the State in economic matters is only applicable to a definite economic stage, the highest one, which Great Britain has reached, but that in more primitive conditions its intervention must be regarded as desirable and indispensable. With this temporal, Bentham combined a geographical relativism:

"There cannot be any incompatibility between the wealth of each and the wealth of all: but the same rule does not apply to subsistence and defence. Individuals may find their individual profit in commercial operations which may be opposed to the subsistence of all, or the defence of all. This particularly may happen to a small community in the neighbourhood of a large one. Establish an unlimited freedom of trade in the small community, the great one may ruin it by means of gold. In case of famine it might purchase all its provisions; at the approach of war, it might purchase all its arms."

These considerations led Bentham to a principle which is diametrically opposed to the absolutist postulates of Cobden and Bright: "The conduct to be pursued . . . are infinitely diversified by the situation, the soil, the climate, and the extent of the country to which it may refer" (III, 71).

In view of such utterances the question arises whether Bentham the economist and Bentham the philosopher were not at variance with each other on this point. Does not the principle of utility claim to be acknowledged as the only possible road to absolutely the best system of morals and legislation? Indeed, this is the case. But the watchword "the greatest happiness of the greatest number" indicates only a purely *formal* principle. It gives merely—to use a simile—the drawing to the picture of legislation; its colours, however, necessarily vary from age to age, and from country to country. This is the tenor of Bentham's *Essay on the Influence of Time and Place in Matters of Legislation*.

Written by a man who was born in the eighteenth century, this essay, with its firm belief in the power of the legislator over society, displays strong traits of enlightenment and rationalism. But this is, after all, only to be expected: what is more important and quite unexpected is the fact that it exhibits at the same time the beginnings of the coming conquest of enlightenment and rationalism by romanticism. Bentham here shows himself influenced by Montesquieu.

> "Before Montesquieu," he says, "a man who had a distant country given to him to make laws for, would have made short work of it. Name me the people, he would have said, reach me down my Bible, and the business is done at once. The laws they have been used to, no matter what they are, mine shall supersede them: manners, they shall have mine, which are the best in nature; religion, they shall have mine too, which is all of it true, and the only one that is so!"

But since Montesquieu such an absolutism is no longer possible: his doctrines have proved that the ideal legislator has fully to take into account the differences of time and space if he is to fulfill his mission.

> "Send the people, he will say, to me, or me to the people; lay open to me the whole tenor of their life and conversation; paint to me the face and geography of the country; give me as close and minute a view as possible of their present laws, their manners, and their religion" (I, 173).

Only on the basis of this geographical and sociological knowledge can a really good and efficient code of law be formulated. The great thesis of the eighteenth century, that there is a natural system of right containing for all peoples and periods the best possible order of social life, was examined by Bentham, and, for the better part, rejected. Indeed, there is an eternal fundamental principle of right elevated above all change, but the outward forms of right, the concrete laws, are subject to the same changes as all things human.

> "The same act which ought to be forbidden in one age and country, ought it to be forbidden in every other? Yes, and No; yes, if, in pronouncing the word act, we have in view a large and general class of acts: no, if a narrow and particular one. The plain truth of the matter is this: there are certain acts which admit of laws, which, if worded in a certain manner, may stand good, and be equally applicable to all

places and times; while there are other acts for which no such laws can be devised. Under the former predicament come those acts, of which the name is included in a single word, such as murder. . . . But laws, while the expression of them is confined to terms so loose and extensive, will never be found precise and clear enough for use. The act thus vaguely described, must, before it can be thoroughly understood and perfectly distinguished, be broken down into species: the law relating to it must, accordingly, be broken down into a multitude of laws: the phrase, pure as it stands now, must be transformed into others, in which provisions of an expository, limitative, or exceptive nature will be necessary. . . . Now, of these qualifying provisions, some, it will be found, ought, in point of expediency, to be different in one country from what they are in another; different in the same country at one time from what they are at another: and this is the secret history of the universality and immutability of these universal and immutable laws. . . . Were I to choose to what I would attribute these magnificent prerogatives of universality and immutability, it should rather be to certain grounds of law, than to the laws themselves" (I, 192 *sq.*).

What is here said of the law-giver is true also, *mutatis mutandis*, of the law-finder: he who wishes to perceive the anonymous laws according to which social life is regulated must keep equally aloof from the errors of perpetualism and universalism as he who wishes to give the political laws according to which social life shall be regulated.

If we descend from Bentham's philosophy of law to his theory of knowledge and methodology, the same picture presents itself to us: Bentham's doctrine was in all its parts a synthesis of rationalism and empiricism, but a synthesis in which the latter was much the stronger element. John Stuart Mill justly emphasised the fact that the perfection of the inductive method was Bentham's most important contribution to modern philosophy.

"He brought into philosophy something which it greatly needed, and for want of which it was at a stand. . . . He introduced . . . those habits of thought and modes of investigation, which are essential to the idea of science; and the absence of which made those departments of inquiry, as physics had been before Bacon, a field of interminable discussion, leading to no result. . . . Bentham's method may be shortly described as the method of detail. . . ."

This method—the method of specialised observation—was, however, characteristic of the historical school and alien to classical economics. If it is true that thinkers are to be classified by their methods—and nothing expressed the contrast of opinions more sharply than the famous "Methodenstreit" between Menger and Schmoller—Bentham must be regarded as a representative of the intellectual type Comte–Schmoller, and not as a representative of the intellectual type Ricardo–Menger. The maxim, "which no one before Bentham ever so consistently applied," was, according to Mill (*Dissertations and Discussions*, 1859, I, 339 *sq.*), the thesis

> "that error lurks in generalities: that the human mind is not capable of embracing a complex whole, until it has surveyed and catalogued the parts of which that whole is made up; that abstractions are not realities *per se*, but an abridged mode of expressing facts, and that the only practical mode of dealing with them is to trace them back to the facts (whether of experience or of consciousness) of which they are the expression."

This creed is more than similar to the basic concept of Schmoller—it is identical with it. Both endeavoured to replace the "ratiocination from premisses adopted on a mere rough view" by "a real inductive philosophy." However Held, the champion of historism, may have judged, both were links in the long chain of the development of empiricism which reaches from Bacon, and, indeed, from Plato, down to the present day.

"Observation and experiment compose the basis of all knowledge" (VIII, 424). Even the doctrines of political economy must therefore be won by a thorough investigation of the facts.

> "To allow no more weight to examples that fall close under our eyes than to those which have fallen at ever so great a distance," Bentham says (III, 28), "to suffer the judgment on no occasion to indulge itself in the license of a too hasty and extensive generalization—these are laws, the complete observance whereof forms the ultimate, and hitherto perhaps for ever, ideal term of human wisdom."

But Schmoller's school not only taught that the economic system was changed by time, they also demanded that it should be changed by man. They not only rejected the absolutism, but also the fatalism, of Ricardo. The historical and ethical elements, economic history and social reform, are indissolubly combined in their thought. In this respect, too, Bentham occupied a parallel

position: while classicists and neo-classicists wanted to make economic theory, after the model of the physical sciences, subservient to pure strife after knowledge, Bentham, like the "socialists of the chair" in later days, aimed at knowledge only for the sake of practical purposes—for the advancement of social welfare.

> "Political economy," he says (III, 33), "is at once a science and an art. To Adam Smith, the science alone has been the direct and constant object in view: the art the collateral and occasional one. The value of the science [however] has for its efficient cause and measure, its subserviency to the art."

Even the great historical aim of the "socialists of the chair," the raising of the working class by State aid, was shared by Bentham, the alleged Manchester-liberal. He taught, indeed, that, in view of the attainment of the maximum of happiness, the State did best to refrain from all interference, but only "in so far as this more general end is promoted by the production of the maximum of wealth" (*ibid.*). Under a different aspect its activity may appear justifiable; material riches are not, after all, the highest good. "Comfort, including security, is the immediate and only direct object in any estimate with me—and wealth only in so far as it contributes to comfort" (80). Social legislation ought, therefore, at times to take precedence over the interests of production:

> "It is true . . . that what ought not to be done with the intention of supporting an unprofitable branch of trade, may yet be proper for preventing the ruin of the workmen actually employed in such business: but these are objects entirely distinct" (60).

And in a positive sense:

> "If a bounty upon production could be justified, it would seem that it ought to be so in the case where the article thus favoured was an article of general consumption—as corn in England, oats in Scotland, potatoes in Ireland, and rice in India: but it would only appear so as a means of producing equality, not under any other point of view" (61).

Even before Robert Owen, Bentham demanded State aid for the unemployed. He advocated "establishments for the occasional maintenance and employment of the able-bodied among the poor, viz., of such by whom either the one or the other is unobtainable

from the ordinary sources " (III, 72 *sq.*)—a postulate which would never have been put forward by a real Manchester man.

In his *Principles of the Civil Code*, Bentham even developed a theoretical justification of social legislation by vindicating it against the principle of *laissez-faire*.

> " In the highest state of social prosperity, the great mass of citizens will have no resource except their daily industry; and consequently will be always near indigence. . . . This aspect of society is the saddest of all. . . . There are only two means, independently of the laws, of making head against these evils, viz., savings and voluntary contributions. If these two resources would always suffice, we ought, by all means, to avoid any legal interference. . . . But a slight examination will be enough to convince us that the two means of succour, independent of the laws, are not sufficient. With respect to savings—if the greatest efforts of industry will not suffice for the daily support of a numerous class, how can that class lay by for the future? . . . In the division of voluntary contributions, the lot of the honest and virtuous poor is seldom equal to that of the impudent and obstreperous beggar. . . . It seems to me, after these observations, that we may lay it down as a general principle that the legislator ought to establish a regular contribution for the wants of indigence . . ." (ed. Ogden, 127 *sq.*; Bowring I, 314 *sq.*).

It is the principle of State aid which is here proclaimed, the principle of a conservative social policy—not the principle of self-help characteristic of liberalism. It is true that Bentham shared the view that there should be no interference with the sphere of the individual. Viewed from the economic standpoint, liberty and security of property are the highest good. But there are higher values than those of economy :

> " The title of the indigent as indigent is stronger than the title of the proprietor of superfluities as proprietor. For the pain of death, which would presently fall upon the starving poor, would be always a more serious evil than the pain of disappointment which falls upon the rich when a portion of his superfluity is taken from him " (132, 316 respectively).

Genuine social policy ought to take precedence over the inviolability of private property—such was Bentham's conviction.

In view of all this it cannot be doubted that Held's judgment on Bentham must be regretted as superficial and false. Held saw

only the weaker rationalist element, not the stronger empiricist element in Bentham's thought. Thus he branded a man as an adversary of his school, who, in reality, had been a predecessor.

One circumstance, however, makes this attitude intelligible. It is not easy to perceive Bentham's influence on the generation which governed international economic thought between 1840 and 1870, for this influence was only indirect, operating through two middlemen, Simonde de Sismondi and Karl von Savigny. They developed the germs of the inductive-historio-ethical concept which are to be found in Bentham, and thus became the bridge between him and men like Cliffe Leslie and Wilhelm Roscher.

It was Etienne Dumont, Bentham's tireless editor and enthusiastic apostle, who introduced his fellow-countryman Sismondi to the intellectual world of utilitarianism. In a "Notice nécrologique" on this great philanthropist which appeared in the year 1829 in the *Revue Encyclopédique*, Sismondi, indeed, expressly rejected Bentham's philosophy; but his writings clearly prove how deeply he had been influenced by it. "The science of government," run the first words of his *Nouveaux principes d'économie politique*, "proposes, or should propose as its aim, the happiness of men united in society. It seeks for the means of assuring them the *greatest possible felicity* compatible with their nature; it seeks at the same time those means which make participate in that felicity the *greatest possible number* of individuals" (1819, 1). Thus Sismondi's starting-point was the same as Bentham's, the greatest-happiness principle, and it is only natural that they arrived at the same fundamental convictions. Thus in economics:

> "We consider political economy . . . as being essentially the science of government . . . the quest for the means by which the greatest possible number of men in a given community may participate in the greatest possible degree in the physical well-being which depends on government" (*Etudes sur l'Economie politique*, II, 1838, 238; *Nouveaux principes*, II, 248).

This similarity of opinion is also manifest in the basic sociological concept: "A nation is nothing else than the union of the individuals of whom it is composed" (*Nouveaux principes*, I, 231). And even in methodology both show the same disinclination towards generalisations: "It is in the details that it is essential to study human conditions" (*Etudes* I, IV). These utterances of Sismondi, to which many others could be added, are reminiscent

not only of Bentham's thought, but often even of Bentham's words.

But even in the one respect in which he is generally credited with definite originality, in the theory of crises, Sismondi must be regarded as a disciple of Bentham. Sismondi's most important thesis states that the growing mechanisation of industry in one act increases the productive capacity, and decreases the consumptive capacity, of society. The same idea had already been expressed by Bentham:

> "The advantage of machines" he said (III, 67, 39), "consists in the increased efficacy of labour. . . . If a manufacturer found himself thus in a condition to execute, with one thousand workmen, what had heretofore required two thousand, it appears, at first sight, that the natural result would be, that he would employ the two thousand workmen to produce the double quantity of work. But unless his pecuniary capital be augmented, it will be impossible for him to employ the same number. The new machines, the new warehouses required for this increase of produce, require a proportionate increase of capital. The most ordinary case, therefore, will be the reduction of the number of workmen; and, as respects them, the consequence is a temporary distress."

It was this idea whose implications Sismondi later developed.

While it is easy to prove Bentham's influence on French thought, it is much more difficult to show his influence on German historism. Fr. K. v. Savigny was here the medium. Although a jurist, he deeply influenced German economic thought; it was the application of his mode of thinking to economic phenomena which determined Wilhelm Roscher to break away from the tradition of abstract and deductive economic theory. Now, the influence of the English Tory theoreticians on Savigny is beyond doubt, and besides Burke, Bentham, too, must here be named in the first place.

The conquest of the law of nature completed by Savigny had been begun by Bentham. He rejected and opposed the sentence of the French Declaration of Rights, that "the end in view of every political association is the preservation of the natural and imprescriptible rights of man" as an "anarchical fallacy."

> "There are no such things as natural rights. . . . Who is this same Queen Nature, who makes such stuff under the

name of laws? In what year of her own, or anybody else's reign, did she make it? and in what shop is a copy of it to be bought, that it may be burnt by the hands of the common hangman, and her majesty well disciplined at the cart's tail?" (II, 500 *sq.*, 598).

But is the agreement between the older Bentham and the younger Savigny not confined to their negative views? Is there not a contradiction between them in their positive principles? What gives Savigny's famous pamphlet, *Vom Beruf unserer Zeit für Gesetzgebung und Rechtswissenschaft*, its general importance is, according to Rudorff, his disciple (*Zeitschrift für Rechtsgeschichte*, 1863, I, 35), "the new doctrine of the creation of the civil law not alone by the legislation of the State, as it passed for an article of faith with the older school, the Macanaz and Bentham, but originally and predominantly by the national consciousness." This new doctrine, far from being irreconcilable with Bentham's ideas, is in fact contained in his works: only that Bentham conceived the national consciousness not as the expression of a mystical national spirit, but as the product of the historical national experience. The contrast only pertains to idealism and materialism, not to rationalism and historism.

Particularly interesting in this connection is what Bentham says on the rise of the law of obligations:

> "In their origin, all services must have been free: it is only by degrees that the laws have intervened to convert the more important into positive rights. It is thus that the institution of marriage has converted into legal obligations the connexion which formerly was voluntary. . . . The same plant might grow in the common, and even be protected by certain conventions; but it would always be subject to more hazards than in this particular boundary traced by the law, and guaranteed by the public force" (I, 338).

Thus the "duties purely social" precede the "political duties," and the "legislative code" only defines with more precision what the "moral and social code" had already ordained. Even the origin of the State is explained in a similar vein:

> "Government supposes the disposition to obedience . . . this disposition may have had for its cause either habit or convention. . . . Habit is the result of a system of conduct of which the commencement is lost in the abyss of time" (III, 219).

The idea of a social contract, however, is rejected in another connection as a "chimera" (I, 268).

Lastly, the fundamental idea of Savigny's historical school—the idea of the relativity of law—was equally present in Bentham. He did not favour the transmission of institutions of a more highly developed and better-organised country to a younger and more primitive territory.

> "It may happen," he says (I, 178), "that the law which prevails in the country to be regulated, shall be better for that country than it would be in the standard country: while the law that obtains with relation to the same point in the standard country, is better for that country than it would be in the country to be regulated."

This relativism provides him also with the key to an understanding of the past. What is nonsense to-day must once have been sense. In this vein he explained the historical privilege of the aristocracy:

> "To the peers, their right of being tried by their own body in capital cases was of use when peers were in a state of perpetual hostility with the crown, and juries were at its devotion. It is now a burthen to the nation and of use to nobody, unless it be to the Lord Chamberlain, and to make a raree-show" (IV, 321).

And as legal institutions have only relative value, so legal ideas:

> "As to the Original Contract . . . and other fictions, there was once a time, perhaps, when they had their use. With instruments of this temper, I will not deny but that some political work may have been done, and that useful work, which, under the then circumstances of things could hardly have been done with any other. But the season of Fiction is now over . . ." (I, 268 *sq.*).

The age of positivism, so we may complete the argument, has arrived—the age of positivism, which took its origin in men like Bentham and reached its perfection in men like Schmoller and his school.

> "When we reflect upon the series of events which . . . constitute the production, the distribution, and the consumption of wealth . . . it becomes at once evident, that whatever may be the natural laws which govern each of these

> phenomena, the thing governed is the mutual relation, direct or indirect, of two simultaneous events, one occurring in the province of human nature, and the other in the external world. . . . It will probably be found, on a reference to the best treatises of Political economy, that the physical conditions of matter with which the science is concerned, have alone been hitherto investigated. . . . There appear to remain still unexplored . . . the mental conditions of the subject. . . ."

In these words Richard Jennings described in 1855 (*Natural Elements of Political Economy*, 9 *sq.*) what Ricardo and Mill had done in the past, and predicted what Jevons and Menger were to do in the future. In either field, in the description of the extra-human as well as in the analysis of the inner-psychic phenomena, Jeremy Bentham achieved fundamental results: not only Ricardo and Mill, but also Jevons and Menger had to learn from him.

From Bentham's main axiom, according to which man must be conceived as a pleasure-seeking and pain-fleeing animal, it not only follows that all his actions, but equally that all his ideas, must be interpreted in the light of the basic sensations. Psychology, in the hedonist form in which Bentham envisaged it, is therefore the basis of the system of sciences: all other disciplines, the *Chrestomathia* teaches, must grow out of, and harmonise with, its perceptions.

> " Directly or indirectly, well-being . . . is the subject of every thought. . . . Constantly and unpreventably it actually is so. . . . This being admitted, Eudæmonics . . . may be said to be the object of every branch of art and the subject of every branch of science. . . . Eudæmonics [in a narrower sense] is the art of well-being. Necessary to well-being is being. In every part, therefore, of the common field, concomitant and correspondent to Eudæmonics considered as an art, runs Ontology, considered as a science " (VIII, 82 *sq.*).

But the social sciences which include theoretical and practical economics not only serve, like all branches of knowledge, the maximation of happiness, but they are, in addition, directly concerned with its determinants, the feelings of pleasure and pain; within the special—Bentham says in his bizarre terminology: idioscopic—ontology they do not belong to the somatoscopic (*i.e.*, body regarding), but to the pneumatoscopic (*i.e.*, mind regarding) class; and within pneumatoscopic ontology again not to the nooscopic (*i.e.*, intellectual faculty regarding) but to the pathoscopic (*i.e.*, sensitive faculty regarding) group. Thus already

Bentham's doctrine of the system of sciences, and of the position of the social disciplines in it, makes the postulate of choosing the analysis of the individual psyche as starting-point for the analysis of all economic phenomena.

But Bentham did more than that. "The whole of our actions in industry and trade," says Stanley Jevons, developing the foundations of his *Theory of Political Economy* (ed. 1931, 10), "depend upon comparing quantities of advantage and disadvantage." This important statement implies two propositions which constitute the whole difference between classicism and neo-classicism: first, the demand that economic science must build on the foundations of psychology, because the comparison in question is an act of the human mind; and secondly, that economic science is mathematical in character and must be so consciously, for it is always concrete magnitudes which are being weighed against each other. Both theses on which the whole edifice of the doctrine rests, sprang, as Jevons well knew, from Bentham's philosophy.

The first proposition contained in Jevons's dictum, according to which all economic actions result from a calculus of gain and loss, is, in fact, only a special case of the general law which Bentham had formulated, according to which all actions without distinction are determined by a calculus of the feelings of pleasure and pain to be expected. "Pleasure and pain," he says (I, 1), "govern us in all we do." All human actions have a motive, and all motives have a feeling of pleasure or pain for their basis. We act always so as to procure ourselves a feeling of pleasure or to ward off a feeling of pain.

> "To take an exact account, then, of the general tendency of any act . . . proceed as follows: sum up all the values of all the pleasures on the one side, and those of all the pains on the other. The balance, if it be on the side of pleasure, will give the good tendency of the act upon the whole, with respect to the interests of that individual person; if on the side of pain, the bad tendency of it upon the whole" (I, 16).

According to the result of the computation, the act is undertaken or omitted. Any practical judgment of man, the moral no less than the economic, is therefore simply a judgment on (positive or negative) quantities of pleasure.

This leads us to Jevons's second proposition: to the question whether and how the basic feelings can be comprehended in their magnitude. The best Bentham experts disagree as to whether

Bentham regarded pleasure and pain as measurable: Leslie Stephen asserts that he did and points to the same utterance of the great utilitarian from which Oskar Kraus deduced the opposite conclusion (cf. *The English Utilitarians*, I, 1900, 250; *Die Werttheorien*, 1937, 106 and 383). But however this may be,[1] it cannot be doubted that Bentham thought a doctrine of the magnitude, or value, of pleasures and pains possible on which Jevons could later build.

An objective comprehension of the psychic magnitudes would make economic theory an exact science. It is a mathematical discipline even without it:

> "We only employ units of measurement in other things to facilitate the comparison of quantities," Jevons explains (*l.c.*, 12 *sq.*). "And if we can compare the quantities directly, we do not need the units. . . . Now the mind of an individual is the balance which makes its own comparisons, and it is the final judge of quantities of feeling. . . . Even if we could compare the feelings of different minds, we should not need to do so. . . . The motive in one mind is weighed only against the motives in the same mind, never against the motives in other minds. . . . Hence the weighing of motives must always be confined to the bosom of the individual."

But as a people is only an "aggregate of individuals"—here appears an atomistic sociology which Jevons and Menger equally received from Bentham—this psychic comparison of advantage and disadvantage, gain and loss, pleasure and pain, is decisive also for the socio-economic actions, and its analysis for the understanding of the whole economic system.

This analysis of the individual psyche was undertaken by Bentham. In us, he teaches, pleasure and pain appear and act as definite magnitudes. "To a certain person, considered by himself," he says (I, 16), "the value of a pleasure or pain, considered by itself, will be greater or less, according to the four following circumstances: (1) Its intensity. (2) Its duration. (3) Its certainty or uncertainty. (4) Its propinquity or remoteness." Present feelings, therefore, have two dimensions:

> "The magnitude of a pleasure is composed of its intensity and its duration: to obtain it, supposing its intensity repre-

[1] The solution of the problem seems to lie in the following sentence:

"Considered with reference to an individual, in every element of human happiness . . . the dimensions of value . . . are four: Intensity, duration, propinquity, certainty. . . . Of these . . . the first, it is true, is not susceptible of precise expression: it not being susceptible of measurement. But the . . . others are" (IV, 542).

sented by a certain number of degrees, you multiply that number by the number expressive of the moments or atoms of time contained in its duration. Suppose two pleasures at the same degree of intensity—give to the second twice the duration of the first, the second is twice as great as the first" (IV, 540).

This is a solid basis, on which it is well possible "to apply arithmetical calculations to the elements of happiness":

> "The quantity or degree of well-being experienced during any given length of time is directly as the magnitude (*i.e.*, the intensity multiplied by the duration) of the sum of the pleasures, and inversely as the magnitude of the sum of the pains experienced during that same length of time" (VIII, 82).

The doctrine of the dimensions of pleasure and pain Bentham described as an "application of arithmetic to questions of utility" (IV, 542). With the same words one could characterise the economic teachings of Jevons and Menger, Walras and Clark. Bentham's philosophical and psychological theory of value has been the root from which their economic theory of value has sprung.

But not only as a philosopher, even as an economist Bentham prepared the utility theory of value. He viewed and formed the notions of economic science in a subjectivist sense. Most interesting in this connection is his doctrine of the factors of production, even though it remained undeveloped. "For the development of industry," he says (I, 310), "the union of power and will is required." In another place he makes a more elaborate distinction: he divides power in the wider sense of the word into knowledge, *i.e.*, "power so far as it depends upon the mental condition of the party whose power is in question," and power in the narrower sense, which "depends upon the state and condition of external objects." "Power, knowledge, or intelligence, and inclination: where these requisites concur on the part of him on whom the production of the desirable effect in question depends, it is produced; when any one of them is wanting, it is not produced" (III, 34). Compared with Smith's doctrine of the factors of production, this conception is the purest subjectivism: not the objective categories land, labour and capital are distinguished, but subjective categories: the power of man over the forces of nature (in soil and capital goods), the knowledge how to use this power and the will to do it.

In a similar subjectivist and psychological vein Bentham interpreted also exchange:

> "Some advantage results from every exchange. Otherwise such exchange would not be made. . . . This advantage for each of the contracting parties is the difference between the value which they put upon what they give up and the value of what they acquire. . . . In each transaction of this kind there are two masses of new enjoyments" (III, 70, cf. also I, 330 *sq.*).

Most strongly manifest is Bentham's subjectivism in his concept of value. "Value is subserviency to well-being—Value is subserviency to use" (III, 36, 39). With these definitions Bentham from the very beginning takes a course different from that of Smith and Ricardo. He makes, indeed, the traditional distinction between value-in-exchange and value-in-use, but it is the latter concept which he regards as the more important.

> "Value may be distinguished into (1) General, or say value in the way of exchange, and (2) Special, or say idiosyncratical—value in the way of use in his own individual instance. . . . *The value of a thing in the way of exchange arises out of, and depends altogether upon, and is proportioned to its value in the way of use*:—for no man would give anything that had a value in the way of use in exchange for anything that had no such value" (III, 226).

While Ricardo and Marx make the value-in-use only the presupposition of value-in-exchange, it is with Bentham also its source and its measure—just as later with Jevons and Menger.

Another of the most typical doctrines of the Austrians is equally foreshadowed in Bentham: Böhm-Bawerk's theory of interest. The thesis that present things are more highly valued than future things is an essential part of Bentham's doctrine of the value of sensations (cf. *supra*, point 4: Propinquity and remoteness). "Putting money out at interest," he says (III, 4), "is exchanging present money for future." But "a given sum is worth the less, as the time for receiving it is more distant" (III, 143). Hence the necessity of interest.

> "The magnitude of a pleasure," we read in another place (IV, 340), "supposing it present, being given, the value of it, if not present, is diminished by whatever it falls short of being present. . . . Take . . . two sums of the same magnitude, say 20 pounds, the one sum receivable immediately, the

other not till at the end of ten years from the present time, interest of money being (suppose) at five per cent. The value of the second sum will be but half that of the first."

The same train of thought in opposite direction gives Böhm-Bawerk's fundamental idea.

But Bentham not only prepared the theory of marginal utility; he even pronounced it. The psychological facts on which it rests were known to the time. "Pleasures, by repetition, lose their relish," wrote Paley in 1785 (*The Principles of Moral and Political Philosophy*, ed. 1814, I, 24). "It is a property of the machine for which we know no remedy, that the organs, by which we perceive pleasure, are blunted and benumbed by being frequently exercised in the same way." In this vein Bentham investigated in his "Pathological Propositions upon which the Good of Equality is founded" (Ogden, 102 *sq.*; Bowring I, 304 *sq.*) "the effect of a portion of wealth when it enters for the first time into the hands of a new possessor," and expresses in this connection the idea of the margin: "The portion of wealth may be so far divided as to produce no happiness at all for any of the participants. This is what would happen, rigorously speaking, if the portion of each was less in value than the smallest known coin." The smallest coin is accordingly to be regarded as the marginal value.

The law that marginal utility decreases if the quantity of a commodity increases was equally formulated by Bentham: "The loss of a portion of wealth will produce, in the total happiness of the loser, a defalcation greater or less, according to the proportion of the part lost to the part which remains" (Ogden, 106; Bowring, 306). Or, in another context:

"How indubitable soever the title may be, of any object to be considered as belonging to the list of these . . . causes [or sources of pleasure], the magnitude of the pleasure produced by it does not increase in so great a ratio as that in which the magnitude of the cause increases. Take, for instance . . . money. Take thereupon any individual: give him a certain quantity of money, you will produce in his mind a certain quantity of pleasure. Give him again the same quantity, you will make an addition to the quantity of his pleasure. But the magnitude of the pleasure produced by the second sum will not be twice the magnitude of the pleasure produced by the first. While the sums are small, the truth of this position may not be perceivable. But let

> the sums have risen to a certain magnitude it will be altogether out of doubt. . . . As it is with money, so is it with all other sources or causes of pleasure" (IV, 541).

And lastly, more clearly still, in a third place:

> "The effect of wealth in the production of happiness goes on diminishing, as the quantity by which the wealth of one man exceeds that of another goes on increasing: in other words, *The quantity of happiness produced by a particle of wealth (each particle being of the same magnitude) will be less and less at every particle: the second will produce less than the first, the third than the second, and so on*" (III, 229).

In this connection Bentham makes an interesting remark:

> "It is to this head that the evils of deep play ought to be referred. Though the chances, so far as relates to money, are equal, in regard to pleasure they are always unfavourable. I have a thousand pounds. The stake is five hundred. If I lose, my fortune is diminished one-half; if I gain, it is increased only by a third. Suppose the stake to be a thousand pounds. If I gain, my happiness is not doubled with my fortune; if I lose, my happiness is destroyed."

This remark is interesting because already a considerable time before Bentham similar ideas had been developed on a similar example: by the Swiss mathematician Daniel Bernoulli. It is probable, though it cannot be proved, that Bentham knew the *Specimen theoriae novae de mensura sortis* (published 1738), which Keynes rightly describes as "the first explicit attempt to take account of the important conception known to modern economists as the diminishing marginal utility of money" (*A Treatise on Probability*, ed. 1929, 318). More interesting than the question if Bernoulli influenced Bentham is, however, at any rate in our context, the question if Jevons and Menger were influenced by Bentham—a question which it is simple to answer with respect to Jevons, and difficult with respect to Menger.

Stanley Jevons in his *Theory of Political Economy* quotes Bentham several times. But—although the *Codification Proposal* is mentioned in one place (*l.c.*, XXVI)—he depended only on the *Principles of Morals and Legislation*, in which there is hardly any allusion to the law of decreasing marginal utility.

Nevertheless, it is no exaggeration to say that Bentham, or rather Benthamism, was the source from which the theory of marginal utility sprang. Jevons and his contemporaries lived in

an atmosphere charged with sensationalist psychology and utilitarian ethics which both came from the great man of Queen's Square Place; it is only natural that they drew parallel economic conclusions from identical philosophical propositions. "No . . . extinction has yet overtaken Bentham," Sidgwick wrote in 1877. "His system is . . . an important element of our current political thought; hardly a decade . . . has elapsed since it might almost have been called a predominant element" (*Miscellaneous Essays and Addresses*, ed. 1904, 135). And Sidgwick is a competent witness : his own life-work had its roots in Bentham's doctrines. When twenty-three years old, he told his friend Dakyns in 1862 : "I think I see a reconciliation between the moral sense and utilitarian theories" (*A Memoir* by A.S. and E.M.S., 1906, 75). All he wrote in later years is admirably summed up in these words. And as England's leading philosopher drew his ideas from the deep well of Bentham's thought, so did England's leading economist. When, in his criticism of Jevons, Marshall described it as "a familiar truth that the total utility of any commodity is not proportional to its final degree of utility" (*Memorials*, ed. Pigou, 1925, 95), he can only have thought of Bentham and Bernoulli, and no one else.

However, the theory of marginal utility is not the work of Jevons alone. The names of Marshall and Edgeworth should never be separated from his when the rise of modern economics is considered. To prove our thesis we have therefore to establish the influence of Bentham on the two great pioneers of Cambridge and Oxford.

As far as Edgeworth is concerned, this is no difficult task. Edgeworth's economic doctrine is an application of Sidgwick's psychological theory. "Sidgwick," says the index to his *New and Old Methods of Ethics* (1877, 92), "*quae pars non plena?*" His fundamental conceptions are radically Benthamite :

> "The first principle of economics is that every agent is actuated only by self-interest. . . . The principal inquiries in social science may be viewed as maximum-problems. . . . As electro-magnetic force tends to a maximum energy, so also pleasure force tends to a maximum energy" (*Mathematical Psychics*, 1881, 16, 6, 13).

It is to him an axiom that "all pleasures are commensurable; so much of one sort of pleasure felt by one sentient being equateable to so much of other sorts of pleasure felt by other sentients" (59 *sq.*). But here his adherence to Bentham's egalitarianism stops

short. In fact, he fought " the democratic or isocratic tendencies implicit in utilitarianism " and expressed himself " in favour of aristocratical privilege—the privilege of man above brute, of civilized above savage, of birth, of talent, and of the male sex " (117, 77).

> " If sentients differ in capacity for happiness," he suggests, implying that this is the case, " under similar circumstances some classes of sentients experiencing on an average more pleasure (*e.g.*, of imagination and sympathy) and less pain (*e.g.*, of fatigue) than others—there is no presumption that equality of circumstances is the most felicific arrangement. . . . Supposing the number of distributees fixed, and . . . a fixed distribuend, might not the sum-total of happiness be greatest when the greatest part of the sum-total, or at any rate larger portions, were held by a few ? . . . The principle of greatest happiness may have gained its popularity, but it lost its meaning, by the addition ' of the greatest number ' " (VII, 118).

It is a surprising fact that Alfred Marshall, although likewise under Sidgwick's influence, accepted exactly those tenets of Benthamism which Edgeworth rejected, and vice versa. " The solution of economic problems was for Marshall not an application of the hedonistic calculus," Keynes states in his classical appreciation of the master (*Memorials*, 9), while it was just this to Edgeworth. In fact, Marshall was most definite on this point.

> " Whenever we get a glimpse of the economic man," he asserts (*l.c.*, 160 *sq.*), " he is not selfish. . . . If we analyse all the infinite variety of motives that are commonly grouped together under the term ' love of money ' we see that they are of all kinds. They include many of the highest, the most refined, and the most unselfish elements in our nature."

Of course, Marshall admitted that egoism was an important spring of action ; but there are other motives, he held, that must equally be acknowledged : above all " hot impulses " and " combative instincts " (212). And as he rejected Bentham's doctrine that self-love is the only psychic motive, so he declined the thesis that pleasure is the only real aim of men. He urged that knowledge and work (as " the healthy exercise of faculties ") are also values of a primary character, ends desired for themselves (106, 115). Nor did he accept the maximisation of enjoyment as the *summum bonum* : " A deep full character is the only true source of happiness " (345).

But, for all that, Marshall was not less convinced that Bentham's proposition as to the diminishing marginal utility of money with increasing quantity was an undeniable truth of fundamental importance to economic analysis. "The same sum of money measures a greater pleasure for the poor than for the rich," he stated in his inaugural lecture at Cambridge, and in 1917, many years after his retirement, he wrote: "The happiness of the rich does not exceed that of the poor nearly in proportion to the difference in their commands of material wealth" (162, 347). This view makes Marshall a Benthamite. Personally, he would not have liked this statement: he purged his books consistently from all references to the philosopher who had come to be despised as the apostle of egoism. Discussing the connection between the size of income and the amount of pleasure derived from it, the first edition of the *Principles* had quoted Bentham as an authority; the second edition no longer does so. The second and third editions contain the following admission: "The notion of Consumers' Rent was suggested to the present writer by a study of the mathematical aspects of demand and utility under the influence of Cournot, von Thuenen and Bentham" (book III, chap. VI, 3). This passage disappeared in the fourth edition. Indeed, even the word pleasure was eliminated because it was too utilitarian: its place was taken by the terms benefit, gratification, and, above all, utility. But all this does not change the facts. Can there be a clearer confession of Benthamism (if not of indebtedness to Bentham) than the following words of Marshall?

> "Wealth exists only for the benefit of mankind. . . . Its true measure lies only in the contribution it makes to human well-being. Now, when bricks and sand and lime and wood are built up into a house, they constitute a greater aggregate of wealth than they did before, even though their aggregate volume is the same as before: and, if the house is overthrown by an earthquake, there is indeed no destruction of matter, but there is a real destruction of wealth, because the matter is distributed in a manner less conducive to human well-being. Similarly, when wealth is very unevenly distributed, some have more of it than they can turn to any very great account in promoting their own well-being; while many others lack the material conditions of a healthy, clean, vigorous, and effective family life. That is to say the wealth is distributed in a manner less conducive to the well-being of mankind than it would be if the rich were somewhat less rich, and the poor

were somewhat less poor: and real wealth would be greatly increased, even though there were no change in the aggregate of bricks and houses and clothes and other material things, if only it were possible to effect that change without danger to freedom and to social order and without impairing the springs of initiative, enterprise and energy" (366).

It is far more difficult to prove Bentham's influence on Menger. We do not possess any tangible indication, and it has even been asserted that there was no connection between them (Boucke, *The Development of Economics*, 1921, 260). But this is going too far. It is not possible here to follow the chain of thinkers which links the two men. Beneke and Bolzano, Herbart and Lotze, can only be mentioned in passing. It must suffice to consider briefly the most important personality that stands between Bentham and Menger: Gustav Theodor Fechner.

Fechner published in the year 1846 a small essay, *Über das höchste Gut*, which can be described as a paraphrase of Bentham's ideas. Apart from a more positive attitude towards God and Christianity, it contains no thought that could not be found in one of Bentham's works,[1] and thus even the thesis of the decreasing marginal utility of money with increasing riches is not wanting. "A means of pleasure heaped beyond a certain degree on *one* individual never produces so much pleasure as divided among several people," we read (ed. Platz, 1923, 64, 55). For it is a fact "that the first penny weighs heavier in pleasure than the twenty-fifth."

This psychological observation made by Bentham has the same factual foundation as the physiological perception propounded by Weber, which is generally known as the "basic law of psychophysics." Weber teaches: "The relation of the increase of stimulus at which an increase of the sensation is just taking place, to the initial stimulus is constant." That is to say: the greater any given stimulus, the greater must be the increase of that stimulus to become perceivable. What is this but Bentham's

[1] The agreement reaches at times even a parallelism in the very wording. The following corresponding passages prove that Fechner must have known Bentham: Fechner 11, 30–31—Bentham IX, 123 (only hedonism is a clear principle of morals, since everybody knows what happiness is); Fechner 18—Bentham II, 537 (only in one point all men agree, the longing for happiness); Fechner 34–35—Bentham I, 48, 211 (there is no motive that has not the production of a pleasure or the suppression of a pain for its end); Fechner 38—Bentham II, 537 (men are led to realise that the greatest and truest happiness can only be secured by working for the happiness of all), etc. Cf. also Fechner's conception of value (*Vorschule der Aesthetik*, 2nd ed., 1897, 24).

thesis that, the greater the initial wealth, the less the importance which is ascribed to a new monetary unit added to it?

Bentham's thesis and Weber's law are combined and form one proposition in Fechner's *Elemente der Psychophysik* (1860). Bringing the great observation into an exact formula, he teaches: "If the sensations increase arithmetically, the stimuli belonging to them mount in a logarithmic curve." This statement can, of course, be reversed: if the stimuli increase arithmetically, the accretions of sensation belonging to them fall off in a logarithmic curve. It is not difficult to perceive herein the fundamental idea of the theory of marginal utility.

Influenced by Bentham, Fechner clearly realised the importance of this law for social and economic life. "The physical goods which we possess (*fortune physique*)," he says (*Elemente* I, 236 *sq.*), postulating a subjective doctrine of value and combining it with the idea of the margin, "have no value and no importance for us as dead matter, but only in so far as they are external means of producing in us a sum of valuable sensations (*fortune morale*) with respect to which they occupy the position of a stimulus. Now a dollar has in this regard much less value for the rich, than for the poor. . . . To offer an equal increase to what Laplace calls the *fortune morale*, the increase of the *fortune physique* must be in relation to this *fortune physique*." If the accretion to the *fortune physique*, so we may add, is not geometrical, but arithmetical only, the accretion to the *fortune morale* occasioned by it falls progressively off.

Whether Carl Menger, the "doctor juris," in pursuing his legal studies, came into touch with F. E. Beneke's *Grundsätze der Zivil- und Kriminalgesetzgebung aus den Handschriften des englischen Rechtsgelehrten Jeremy Bentham* (1830), may appear doubtful, but not that Bentham stimulated Fechner, and Fechner Menger. In any case Menger is likely to have known F. A. Lange's famous essay, *Die Arbeiterfrage* (1865), which hailed the basic law of psychophysics as the scientific foundation of the future doctrine of society.

But although Bentham thus appears connected with Jevons and Menger, his doctrine was fundamentally different from theirs in one point: Bentham developed the "all-important point in economic problems" *i.e.*, the "general law, that the degree of utility varies with the quantity of commodity, and ultimately decreases as that quantity increases" (Jevons, *l.c.*, 53) in confronting man with money, *i.e.*, the carrier of purchasing power; while Jevons and Menger confront him directly with a primary

good such as water. At a first glance it might seem that this difference is without importance. A closer investigation, however, shows that Bentham's procedure is essentially superior to that of his followers', and that in three respects :

(1) Jevons and Menger regard man in his relation to one isolated good, Bentham in his relation to the "general source, and thence representative of pleasure—money" (IV, 540). Now, in reality the operation of the law of decreasing marginal utility shows itself clearly only in the case of general purchasing power, of which in fact every new unit is continually used for the next important commodity. As long as Menger's "isolated economic subject" has to do only with one consumption-good, which, in addition, is uniformly divisible, all is well. But if we take, let us say, three commodities into account, all is different : if Robinson Crusoe has at his disposal besides water also bread and meat, he will combine the three goods, first probably by quenching his thirst, then his hunger, then perhaps his longing for cleanliness, and only afterwards gratify his desire for meat. Here is no continuity : certain wants are partly satisfied, then others, then he returns to the satisfaction of the first, and so on ; they intersect and change with each other. Besides the decrease in utility of the goods of one kind, the order of precedence of the different kinds here comes into play. Hence, while Bentham directly comprehends reality as it is, Jevons and Menger offer only a (none too fortunate) approximation.

(2) Jevons and Menger conceive man in isolation, as a natural being, Bentham, however, in the social connection, as a social being. Now, the law of the decrease of marginal utility is—to speak with Kant—not only a part of physiological, but also a part of pragmatic anthropology, *i.e.*, it applies not only to man as a zoon, but also to man as a zoon politikon. The traveller in the desert or Robinson Crusoe on his island can certainly be regarded as true representatives of mankind—they, too, are confronted with the scarcity of supply—but in the present social order the individual is limited in his provision of goods, not directly by natural scarcity, but rather by his social position. It is the amount of his income which forces him to break off his consumption at a certain point. This point arrives for the poor man soon, for the rich late—a fact which in Bentham's deduction finds its expression in the different marginal utility of the smallest coin for different classes of income, but remains unnoticed by Jevons and Menger. Here, too, Bentham gives us life in all its concreteness, Jevons and Menger only an abstraction.

(3) The doctrines of Jevons and Menger lead to the result that—to use Walras' clear words—"under the régime of free competition, things tend by themselves towards an equilibrium corresponding to the maximum of effective utility" (*Études d'économie politique appliquée*, ed. Leduc, 1936, 476). But this thesis contains only half the truth : it shows only the great merit, not also the great fault of modern exchange economy. Certainly, if one accepts the existing distribution of incomes without discussion, it is easy to prove that under the given circumstances free competition realises the maximum of happiness in the community. But if we connect economic theory with social analysis, as is necessary for a full comprehension of reality, we shall have to acknowledge that by a change of the present distribution of income the sum-total of well-being in our society could still be vastly augmented. If the last penny in the income of the nabob is being used for providing his pet-dog with milk while in the hand of the beggar-woman it cannot be used in doing the same for her starving child, then it is clear that by its transmission from one pocket into the other more is added to the happiness of the poor than is taken away from the happiness of the rich. Walras' theory exposes one truth, Bentham's doctrine two. It leads to the only just valuation of the social and economic order of capitalism.

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NATIONAL AND LOCAL FINANCE

I

In the political sphere there are to-day few more universal problems than those which may be loosely described as federal. In Europe, although events proved the idea of any general "federal union" to be beyond the limits of practical politics, we have recently witnessed the establishment of a highly significant customs union between Holland and Belgium. In India the birth-struggles of the biggest experiment in federalism that has ever been made are taking place. In the British Colonial Empire, in Africa and Asia, groups of States are ripening towards the federal principle.

Even in the United Kingdom the problems of federalism are not without direct relevance. Notwithstanding the presence of a handful of Northern Irish representatives at Westminster, and the legal subordination of the Northern Irish Parliament, the relation between the Government of Great Britain and that of Northern Ireland provide in the constitution of the United Kingdom at least one trace of federalism. Further, the parallel between the neo-regionalism in local government now advocated by certain reforming groups, and the paleo-regionalism of the Conservative Party in 1913–14, should not be overlooked. Although the former (starting from the side of greater autonomy for local government) would apparently merely seek to cover the country with replicas of the L.C.C., and the latter (starting from the side of ridding Westminster of the weariness of local problems) would have constituted the United Kingdom a series of Northern Irelands, in practice the two systems might well have much in common.

The new importance of federalism in the world calls for a fresh examination of its problems in the light on the one side of the constitutional strains of the last few years, and on the other of the continuous improvement in administrative techniques and in the speed of transport. This need is already being met by a swelling stream of new books, concerned especially with the political aspects of federalism.[1] In the federal problem, however,

[1] *Federal Government.* By K. C. Wheare. Oxford University Press, 1946. Pp. vii + 278. 15*s*. *Federal Finance in Peace and War.* By G. F. Shirras. Macmillan, 1944. Pp. xvi + 377. 21*s*. *State and Local Finance in the National*

economic, and particularly financial, considerations cannot long be separated from political considerations. In this as in other spheres of government the power of the purse has political consequences which may go beyond what is laid down in the constitution. The inescapability of economic considerations is shown by the fact that Prof. Wheare, whose interests are plainly legal and political, yet devotes nearly a third of his space to economics and finance. More directly concerned with the economic problems of federalism are the two other books with which we are here concerned—Prof. Shirras' general review of the finances of the U.S.A. and the British Commonwealth federations, and Prof. Hansen and Dr. Perloff's close-up of the regional finances of the U.S.A.

How are we to define federalism? Prof. Wheare devotes his best attention to illuminating this first step (cf. pp. 13 ff.). He distinguishes three degrees of federal intensity, according as different conditions are satisfied. The most exacting definition—that of the "Federal Principle"—is satisfied only where powers of national and regional governments are co-ordinate—that is to say, each layer of government is independent within its own sphere.[1] Less exacting is the admission that a "Federal Constitution" may exist where the federal principle is predominant in practice, although one layer of government may depend on another (as in the U.S.A. until 1913, the Senate was elected by the State legislatures). A further relaxation is allowed in the working definition of "Federal Government" where, by its common practice, the general government acts in a predominant number of aspects as if the regional governments possessed co-ordinate powers. These successive relaxations allow Prof. Wheare to consider the U.S.A., Canada, Australia and Switzerland, but not South Africa or India.

It is well to be reminded that statutory rights may provide a greater assurance of continuity than mere convention; but the difference is in practice a matter of degree. Constitutions can be altered; even by less drastic means legal interpretation may mould and transform the original intention—as in Canada the tenour of the decisions of the Judicial Committee of the Privy Council have preserved wider powers for the Provinces than could reasonably have been expected from the Constitution; wider in

Economy. By A. H. Hansen and H. S. Perloff. New York: Norton, 1944. Pp. ix + 310. $3.75.

[1] Prof. Wheare differs from many writers on political theory in regarding the location of residual powers as constitutionally unimportant.

important aspects than those now enjoyed by the constitutionally more powerful States of the Australian Commonwealth.

It is doubtful if even Prof. Wheare's successive relaxations of the purity of practical federalism go far enough to cover some of the most important and interesting aspects of the federal problem. The object of federalism is to secure at one and the same time the advantages of unity and of diversity. In the economic sense at least these two can be secured in some substantial measure wherever the budgets of regional (local) governments are independent of the supervision and veto of the national (general) Government. In these conditions co-ordination of powers does exist, albeit perhaps only over a rather limited field. A necessary and sufficient condition for this state of affairs is that minor governments should control a fairly substantial independent source of revenue.

From this point of view the federal problem of marrying unity and diversity is fully present in British local government to-day, and likewise in all democracies with a well-developed local government system. In the day-to-day conduct of affairs the difference between them and the statutory federations is as much a matter of degree as of kind, as can be demonstrated by comparing the percentage of total tax revenue independently raised and spent by local governments, in relation to the revenue of national governments :

Tax Revenue Collected and Spent by Regional Governments, as a Percentage of Total Tax Revenue.

(Average for first half of the 30's.)

A. U.S.A. and British Commonwealth.[1]		B. Strong Local Government Democracies.[2]		C. Other Democracies.[3]	
U.S.A.	59	Sweden	37	France	19
Canada	54	Denmark	39	Belgium	9
Australia	51	Norway	46	(Italy)	22
India	49	Holland	38	*U.K. 1936*	*18*[3]
(South Africa)	28	*U.K. 1913*	*33*[3]		

[1] Shirras, *op. cit.*
[2] Lindahl, *Samlade Skattertryket i Sverige och Undlander.*
[3] *Statistical Abstract of the U.K.*

These figures broadly reflect the relative strengths of regional and general governments; it can hardly be questioned that the difference in the effectiveness of local government between col. C and B is at least as great as that between B and A; yet the B constitutions are unitary, and the A's broadly federal. Actually the figures understate the power of the regional governments,

since many of them derive a proportionately more substantial revenue from trading services than national governments. Further, the influence of regional governments is greater on the expenditure than on the revenue side, owing to the presence of grants in aid, more or less freely disposable by regional governments. It is, of course, the presence of this factor which falsifies the apparent transfer of Britain from Col. B to Col. C in the inter-war period; but although a considerable reliance on grants need not necessarily destroy diversity, it is evident that Britain has come to sail perilously near the shore.

Federalism in the narrow sense is thus one (but only one) method of preserving the pleasures of diversity while enjoying the strength of unity. Viewed from this angle its basic problem is not so much that from which Prof. Wheare sets out—what are the conditions for the establishment of successful federal government?—but the more general one of what relations between general and regional governments are necessary in order to secure the continuance of both the strength and diversity sought by the federal form of government. When we are considering the financial side, it is particularly important to look at the problem in this more general manner.

Approaching from this side, we are immediately faced with the questions, what kind of diversity, and for what purpose unity? Not all the diversities enshrined in federal constitutions are worthy of preservation. Some, such as the racial or political discrimination of a Georgia or of an Ulster, run counter to the ideology of the nations of which they form a part, and the federal principle actually hinders their decent interment. There is, however (as Montesquieu was well aware, although his countrymen persistently disregarded his words), both moral strength and political stability to be drawn from the diversity which springs naturally from local responsibility for decisions on social and economic affairs, particularly those of local interest and significance. As Prof. Wheare puts it (p. 228), "Majorities of regions have a significance which majorities of people have not." Such diversity enriches the life both of the individual and of the community. The problem is how to preserve this kind of diversity in the face of growing centripetal tendencies—tendencies which spring both from political and from economic origins.

In the modern world, especially considered as a world liable to wars which call for enormous capital resources, the strength which comes through union may be a necessary condition for the

survival of local ideology, for all except such strategically happy backwaters as Sweden and Eire. If a federal constitution is the only practicable form of union for ensuring survival, it is almost certainly ineffective for the purpose. Co-ordination of powers over a wide field inevitably cramps the effectiveness of action. A federal government established in these circumstances is likely to specialise in an inability to get things done; a condition which not all will agree with Professor Wheare (p. 86) in regarding as a positive advantage.

Unified control is no less necessary for a systematic internal policy, whether it be merely to secure (in Prof. Hansen's phrase) "Federal underwriting of minimum service standards"—a principle which has been of ever-growing importance in Britain since the first differential education grants at the beginning of the century—or whether it takes the form of a more comprehensive programme of income redistribution, or of public responsibility for the level of economic activity.

The change in emphasis in the central/local government relation, illustrated in Britain by the relative decline in local revenue, is not confined to Britain. From all the federations examples can be gathered of general governments seeping through the local defences of the constitution, obtaining by the back door a considerable part of what the rigidity of written constitutions and the susceptibility of local feeling prevent them from getting by more forthright methods. This process is highly significant, and is well analysed by Prof. Wheare.[1]

The most obvious occasion for the expansion of the economic powers of general governments is war; but not all of the ways in which this works are equally obvious. It leads to increased legislative control on the one hand, and to increased delegation of powers to the national executive on the other; not all of these extensions are commonly lost at the end of the war. On the tax side, war leads to a greater central control of revenue sources, which again is not lightly relinquished. More subtly, the power of peace and war, and its corollary treaty-making, can be used to increase central control, even in time of peace. Thus the independence of the American States was very considerably diminished when local militias were abolished in the interests of the national army. Again, that great social and economic experiment, the T.V.A., was justified by the federal Government, and confirmed by the Supreme Court, under the federal war power; the whole of the New Deal legislation might have been legalised under the

[1] Cf. especially pp. 106, 160, 180 ff.

Treaty-making power, had not the Supreme Court already found another way of eating its words.[1]

Many other methods of encroachment are also available to national governments, even in a constitution-bound federation. Above all is the power of inducement, inherent in all percentage grants, but especially noticeable in the devices of the U.S.A. federal government to promote social security measures. Example and publicity can also work to the same purpose. Thus the U.S. federal Departments of Labour and Commerce "carry out investigations, compile statistics, suggest laws and regulations, in matters of social and commercial legislation, which, without doubt, fall within State (*i.e.*, outside federal control) control."[2] The practice of these indirect methods and their general acceptibility demonstrate that although war may be the main occasion for the growth of economic power by general governments, it is not (as was claimed for instance by Seligman) the root cause of it. After all, the federal income tax in the U.S.A. was established before, and independently of, the war of 1914–18. Economic depression may be an even more powerful advocate of generalised social services than war.

II

The change in emphasis which is causing a revolution in the relation between general and local governments and their finances all over the world has a number of roots, but of these two are predominant on the financial side—in respect of expenditure, the growth of the social services; in respect of revenue, the preeminence of progressive income taxes as a fertile source of revenue. The revolution in public outlay caused by the growth of the social services can be demonstrated by figures presented by Mr. Shirras:

Public Expenditure as a Percentage of the National Income, 1937–38[1]

	Social Services.	General Administration + Defence.
U.S.A.	8	5
Australia	7	4
Canada	9	5
South Africa	5	3
India	2	6
U.K.	13	9

[1] Shirras, pp. 53, 88, 139, 165, 205; British figures from Appropriation Accounts and Local Government Financial Statistics.

[1] This way out was actually attempted in respect of the "Bennett New Deal" in Canada, but was frustrated by the decision of the Judicial Committee of the Privy Council, in accordance with the policy referred to above, cf. Wheare, pp. 157, 162, 185.

[2] Wheare, p. 160.

The precise figures should not be pressed too closely (for instance, there is considerable doubt as to the significance of expenditures classed together as "pensions"); but the general position is clear; even on the eve of war the social services had come to occupy a predominant place in budgets in the Anglo-Saxon countries. It is interesting, further, that in spite of the relatively greater development of social expenditure in Britain than elsewhere, its predominance was relatively less, owing to the heavy cost of defence.

The social services universally began as regional, indeed predominantly local, duties; and in spite of the partially conflicting claims of standardisation of service (which calls for central supervision if not control), regional they are likely to remain, and for the most part should remain; for it is in fields such as these that the right type of local diversity is exercised and the right type of local initiative developed. The social services require, however, large and expanding outlays, which call for large and expanding revenue. The answer to this call must mainly come from progressive taxation, especially the taxation of incomes from work and property (including the profits of firms)—that is to say, from just those taxes which national governments need to control in order to support their overriding duties *vis-à-vis* foreign States.

Thus it is that in advanced countries the "social service State" is coming to birth in conditions of strain between national and regional governments, a strain which varies in intensity according in the first place to the overall pressure on the revenue, and in the second to the initial allocation of revenue sources, and to some degree of duties also. Thus the strain has been worst where national governments have not been constitutionally endowed with priority in income tax, and have had to seize that priority by more or less arbitrary methods. Already in the late thirties most national governments had acquired a complete predominance in this sphere, as the following percentages show.

Percentage of Income and Profits Taxes Accruing to Central Governments, 1937–38 [1]

U.K.	U.S.A.	Canada.	Australia.	South Africa.
100	86	72	27	88

[1] Shirras, pp. 44, 78, 128, 172.

The bitter war and post-war struggles in Canada and Australia are at once explained by these figures; but they do not tell the

whole story, since in every federation the position of the national Government is made more difficult by the existence of very high tax rates in certain regions.

Among the federations an important cause of differences in strain is the allocation of revenue sources and duties between the upper layer of regional governments (which it is convenient to refer to as "states"), and the lower layer (or layers) (which it is convenient to lump together as "local authorities"). This important complication of the federal problem is quite unaccountably ignored by Prof. Wheare, but is well dealt with by Prof. Shirras. Thus in the U.K. the most onerous, and consequently disequalising, form of social expenditure has always been relief (public assistance); [1] it is not therefore surprising to find that more difficulties have arisen in Canada, where relief is predominantly a local affair, than in Australia, where it is not. Parallel differences arise over the distribution of responsibility for education and health services. Especial strain, and especially sharp service differences, are found for instance in the U.S.A. and Canada, where the local governments (inevitably the weakest of the three partners in administration), exercise important duties in these fields. Contrast the relative absence of strain, before the emergence of war difficulties, in Australia, where public assistance is a national responsibility, education a State affair, and the duties of local authorities are mainly concerned with sanitary services.

A further difference arises according to the type of local government. Difficulties are greatest where the small "township" jurisdiction (urban or rural) is preponderant, as in the U.S.A. In developed countries experience shows that the successful local administration is essentially that of the moderate to large town. This is both natural and right, because it is in urban communities of this nature that the local consciousness which most easily promotes the right kind of diversity is most simply united with a unit of control that is economically appropriate. The attempt in Britain to promote similar units of control outside of the larger towns, by concentrating urban and rural districts under county council management, is only very partially successful from the point of view of preserving diversity and initiative; although (as Messrs. Hansen and Perloff realise, p. 94) it perhaps offers the only practicable solution of the local government problem in non-urban areas.[2]

[1] C. F. Hicks (J.R. and U.K.), *Standards of Local Expenditure*.

[2] It is interesting that the American writers (Hansen and Perloff, pp. 76 ff.) set the optimum unit for independent local government at a lower level (population of 30,000 to 50,000) than is now allowed for county borough status in

A further illustration of the virility of urban local government is afforded by the big towns in South Africa, where the constitution provides little scope for the independent development of local amenities and very sketchy independent revenue sources, other than the profits of trading services. Dr. Maud's researches have already shown the importance of the local government of Johannesburg. Prof. Shirras' combined figures illustrate the extent to which South African city government has broken through the centralising shackles of the constitution.[1]

It is not only in the field of income tax that incompatibility between resources and duties may arise. As revenue needs expand, the question of control over inheritance taxes seems likely also to give rise to trouble. These taxes have traditionally belonged to the middle layer in federal constitutions; but recently they seem to be going the same way as income tax; in the U.S.A. 75% of inheritance-tax revenue now goes to the federal Government. In the field of outlay taxes the "key" revenue sources are the traditional taxes on drink and tobacco and the newer duties on motoring and general sales (or turnover). The degree of strain differs markedly according to the way in which these revenue sources are distributed between federal and State Governments. In the U.S.A., where 70% of the taxes on alcohol and 90% of those on tobacco accrue to the federal Government, while the lion's share of general sales tax and motoring tax revenue go to the States, the strain is less than in the British Commonwealth federations, where the sales tax accrues to the general Governments and motoring taxes are much less fully developed. The lighter revenue needs of the U.S.A.—largely due to the burden of debt in the British federations—must also be borne in mind. There are, however, grave economic and distributional disadvantages in allowing regional governments to exploit sales taxes.

In contrast to the confusion and competitive exploitation of outlay taxes by the middle and top layers of government, it appears to be becoming general for local governments to be left with a single, but substantial source of revenue, a tax on real estate. Taxes of this nature formed 94% of the revenue of local authorities in the U.S.A., 90% in Canada, over 80% in Australia, 100% in South Africa—and of course 100% in Britain. On the

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Britain. May it not be that in the interests of a short-sighted megalomania—largely in the interests of the counties—we are denying ourselves the full use of the most virile element in local government?

[1] Shirras, p. 172.

other side, over 90% of the revenue from this tax accrued to local authorities in the U.S.A., Canada and South Africa, and over 80% in Australia. So long as the duties of local authorities do not exceed what can be financed from this source—with the support of such equalising grants as may be necessary to procure comparable services—the main financial problem is thus one of the relations between federal and State Governments.

These figures, also derived from Prof. Shirras, must be regarded as no more than approximate. Sources of revenue are not shown with sufficient detail to enable precise comparison to be made. This criticism holds equally on the expenditure side; in particular it is impossible to determine from the figures the manner in which debt charges should be treated, in an economic as distinct from a budgetary sense. It is clearly not plausible to apply universally the traditional British practice of regarding public debts as predominantly dead weight; yet it would appear that a considerable part of the "productive" debt in the Commonwealth federations, which should be represented by assets, is in fact virtually dead weight.

What are we to think of this distribution of resources and powers? It is clearly not good enough to follow Prof. Wheare [1] in attempting to adduce what ought to be merely from what is. While some of the facts are clearly the result of policy—for instance, the concentration of income taxes under the control of national governments, and the allocation of education and some health services to State Governments—for the most part the distribution of resources and responsibilities appears to be the result of historical accident. It is not surprising that nowhere is complete harmony to be found, on either side of the public finance balance-sheet.

As has already been indicated, sufficient data have not yet been assembled to make an informed judgment on essential points. Prof. Shirras has done a stout piece of work in bringing together a great mass of detail, probably a fairly complete collection of what was readily available. It must be admitted, however, that it does not take us very far, in spite of the fact that the book contains no less than 153 tables. The data for the different federations are not on all fours; in general the figures are too global to be informative, and, further, especially for the purpose of making internal comparisons between regions—which is a necessary process in the analysis—figures need to be expressed on a per head basis, rather than in relation to national or regional

[1] Wheare, p. 98.

incomes. National income figures are seldom a sure enough foundation for comparisons; and regional income figures, where they exist, are enormously less reliable. Finally, as has been suggested above, the comparison should be completed with figures not only from other federations, but also from the strong local government democracies.

Even at this stage, however, it should be possible to suggest certain general principles. In the first place, it is clear that national Governments must either control income and capital taxes, or command a priority in respect of them sufficient to allow them fully to satisfy their needs in an emergency. Secondly, wherever it is intended to follow a general policy of progressive taxation or of income redistribution, it is necessary for the national Government to retain under its control a sufficiently large part of the total tax structure to control the progression (this point is understandably emphasized by the American writers [1]). Federal plans in this respect can be completely upset by State exploitation of general sales taxes. Thirdly, on grounds of double taxation, the less minor Governments are allowed to exploit income taxes and excises (in the British sense) the better, especially where local tax jurisdictions are small. Finally, for the lowest layer of Governments a real-estate tax of some sort remains appropriate, if only because it is the simplest way of securing budgetary independence; but at the same time it does avoid double taxation between local and other budgets so long as upper layers agree to vacate this tax, as they are usually prepared to do.

Some—although not all—of these principles are in fact reflected in current tendencies. It is not always realised, however, the extent to which they imply an increase in grants in aid; and in the next round, where minimum service standards become an accepted aim of policy, in differential formula grants. These will become necessary not merely for local governments (where a real-estate tax can only be made compatible with a progressive tax structure so long as the rates are low in relation to family incomes); but also for the middle layer of governments, who are now in danger of losing some of their most fertile revenue resources, without a corresponding decline in their responsibilities.

On the subject of grants in aid, especially on the best basis for differential formulæ, there is urgent need for more comparative research. Further research is also needed in order to gauge how great is the danger of loss of budgetary independence (and so the

[1] Hansen and Perloff, p. 39.

sacrifice of desirable diversity) from an extension of differential grants. The experience of the U.K. and of Australia, who have travelled farther along this road than others, suggests that it need not be very immediate.

III

The need for further comparative research is even more pressing on the expenditure than on the revenue side. The field which might be covered is suggested by the contribution which Prof. Hansen and Dr. Perloff have made in investigating in some detail a number of inter-local problems in the greatest of all federations. It is a study such as this which reveals the essential similarity of the interlocal and central/local problems in a federation and in a democracy with independent local budgets such as Britain.

Space does not allow of a just appreciation of this contribution, but four aspects at least deserve mention because they are particularly relevant to contemporary British problems, (i) the problems raised by interlocal differences in resources and service standards; (ii) jurisdictional (boundary) problems, especially in connection with urban overspill and differences between private and social costs when factories move into the country; (iii) the relative costs of administering and of replanning blighted areas; (iv) the fundamental nature of local "fiscal perversity" in depression.

As is to be expected in a country of the size and natural diversity of the U.S.A., local incomes vary enormously. Taking States as a whole (from data derived from state income taxes), income per head ranges from \$853 in New York to \$199 in Mississippi; [1] within States the range will naturally be much greater. The effect of these differences, unrelieved by differential grants, on service standards, can be imagined. Education expenditure per pupil is found to vary from an average of \$157 to one of \$31; it is moreover inversely correlated with the number of children per adult. On health services some States spend as little as 3 cts. per head per year. In the rural parts of Alabama only 2% of births take place in hospitals; in the rural parts of California 66%. As in Britain, if you are in need of assistance you will get the best terms in the richest

The problem of urban overspill and jurisdictional rigidity has been raised in an acute form in the U.S.A. by the war factories;

[1] Hansen and Perloff, pp. 18, 19 ff.
[2] *Op. cit.*, p. 171.

it is intensified by the typically small size of local administration jurisdictions.[1] Of especial reference to British problems is the demonstration of the effect of the failure to allow city jurisdictions to expand.[2] Philadelphia is only one-tenth of a square mile larger than it was in 1834; San Francisco is the same size as it was in 1856. In all the larger cities, not excluding New York, the centre is tending to become stationary, or even to decline relatively to the periphery, whether measured in terms of retail sales, manufactured products, or workers employed.

This situation leads to the blighted area round the city centre, just as too often occurs in Britain for essentially similar reasons. On this problem Messrs Hansen and Perloff have a number of useful things to say. They quote a Boston investigation[3] of different census tracts (or as we should say, wards), distinguished according to their dominant use, and showing that the cost of slum areas enormously exceeds the revenue derived from them. It is pointed out (as is again true in this country) that the true cost of slums is never apparent because the property is over-valued for local revenue purposes.[4] For dealing with problems of the blighted area the authors recommend, in addition to powers of land control and acquisition, federal advances (if necessary up to 100% of the cost) not merely for reconstruction purposes, but also to cover the cost of replanning.

The causes of fiscal perversity in local finance in depression are now fairly well understood; nevertheless the authors underline some useful points on this side also—for instance, the difficulty that local debt is mainly held externally to the jurisdiction, so that debt service is not a mere transfer between citizens. On the whole, however, this is the least satisfactory part of the book, more especially as the authors allow themselves to stray rather too freely for a book of this nature into general problems of the overall tax structure and of its income distribution—questions which are only loosely related to their main theme.

One of the ways in which we in this country have most to learn from *State and Local Finance in the National Economy* is by observing the wealth and variety of detailed statistical research into problems of local government and finance on which the authors can draw, research coming both from official—national

[1] It will be remembered that the process of concentrating *ad hoc* authorities into general local councils (completed in Britain in 1929) has not taken place in the U.S.A.

[2] Hansen and Perloff, pp. 85, 95.

[3] *Op. cit.*, p. 109.

[4] *Op. cit.*, p. 117.

and local—and from private sources. The United States started some considerable way behind Britain in attempting to provide a national system of social services; but if we do not wake up they will soon have much better means of testing and ensuring its efficiency than with all our experience we can command.

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REVIEWS.

Economic Rebirth. By R. G. Hawtrey. (London: Longmans, 1946. Pp. 161. 5*s*.)

The title of this book, and the "majestic utterance" from Isaiah with which it opens, lead us to expect some strong proposals for our future economy. It is a post-war study, but it differs from others of that kind in that lines of pre-war thought are sustained, and Mr. Hawtrey does not discard all pre-war economies as ideas to which we are "not going back." Rather, he maintains the ideas, mainly monetary, with which his readers are already familiar, and in more than one passage shows a critical independence of the Keynesian analysis. But, considering the sort of plans which are now being made, Economic Rebirth is a strong title for the much less ambitious proposals here put forward. For example, "full employment is most effectively maintained by a judicious regulation of the flow of money through the mechanism of credit, and especially by restraining *in time* any such expansion as is likely to involve a subsequent contraction" (p. 52) is a statement influenced, not by the ideas of Beveridge or Keynes, but by those of Marshall, who said that the "only effective remedy for unemployment" is that "reckless inflations of credit—the chief cause of all economic malaise—may be kept within narrower limits" (*Principles*, p. 710). The control of inflation is the theme of the first part of Mr. Hawtrey's argument; he fears a release of spending power for some time, and that control of prices will only exhaust stocks, while a rise of prices is unfair to contractual incomes. He favours the timely use of Bank Rate, that "beautiful instrument" of the Macmillan Committee, and a forced loan. These proposals are transitional, as were similar plans in 1918, when Cannan saw the same dangers as Mr. Hawtrey sees now. The reader must follow for himself the descriptive and critical treatment of this safeguard in its national and international aspects, and its relation to wage policy. So many details are woven into the argument that it becomes a rapid review of current tendencies, the main thread having to be picked up at intervals. Needless to say, it is scholarly and informative, although a student will feel rather refreshed than reborn.

The second main suggestion is for the nationalisation of the wholesale trade. This would, he thinks, give the State a strategic position as regards priorities, and could be applied to imports as well as to domestic supplies. "Integrations" would have to be broken up, so that the selling or buying department was placed under a public control. The State would levy, in handling supplies, what would amount to a purchase tax, so creating a margin for the replacement of stocks. Mr. Hawtrey perceives the difficulties in respect of some capital requisites, but thinks the plan can be worked, and prefers it to Collectivism. Will this plan affect the practice of maintained retail prices, which manufacturers have imposed on retailers for branded goods, or will the Government sell to retailers without conditions? This would revive an old controversy. To many, however, this suggestion will be a more acceptable way of gaining some of the advantages of a public control.

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Tin under Control. By K. E. KNORR. (Stanford University Press, California, 1945. Pp. xi + 314. $3.00.)

The World Coffee Economy, with Special Reference to Control Schemes. By V. D. WICKIZER. (Stanford University Press, California, 1943. Pp. x + 258. $3.00.)

THESE are two more of the Commodity Policy Studies which the Food Research Institute of Stanford University is producing. The first is a smashing indictment of the international tin controls of the nineteen thirties, but let no one suppose that because it emanates from the United States it is mere propaganda. On the contrary, this seems to me as impartial as any study on such a subject can well be, and its conclusions therefore merit corresponding attention, especially in Great Britain, and not least at the British Colonial Office. The book was finished towards the end of 1944, but it has dated little, if indeed, for all major purposes, at all.

Mr. Knorr starts with four introductory chapters on the uses of tin, the nature of the demand and supply, and the like. Then comes a chapter "Developments Prior to Control 1918–30," which in 23 pages is something of a masterpiece of compression, giving just what is essential for the main purpose of the book without in my judgment any serious, let alone unfair, omission.

A detailed history of the three control agreements follows, and is completed on p. 187. The reader who is really conversant with the characteristics of the tin industry and with its history may, if he is in a hurry, start at p. 188, but this is not, of course, to say that Mr. Knorr should not have written this part of his book. Even though he has added little that is really new, it was essential to his purpose to present this historical study, and well worth doing because we have not yet had a single study of this complete epoch. This will, I think, be the standard work on the subject.

The really valuable part of this book, however, is the sixty-five pages (Chapters XI and XII) in which international control is appraised. Control was certainly successful in raising and maintaining the price of tin, and if a price around £220 was in the view of the controllers a " fair " price, this objective was accomplished. Moreover, the control years, despite very severe output restriction at times, are shown to have been profitable years for the industry. On the other hand, the objective of moderating short-period price fluctuations was not achieved : the jejeune comparison of 1919–30 and 1931–41, on which the Tin Producers' Association base their claim, is rightly rejected, and the more reasonable comparison of 1921–30 and 1931–39 shows approximately the same average annual price fluctuation at £64–65 per ton. The reasons for this failure lead to a useful study of the difficulties of price forecasting, the conflict between the objectives of assuring both a high price and a relatively stable price, and the technique of buffer stocks. But, of course, the worst feature was that the controllers " focused their attention upon low prices and their immediate cause, *i.e.*, surplus stocks and surplus supplies. In no statement of policy did they pay the slightest attention to surplus output capacity, the ultimate cause." " In other words, international tin control set out to correct the effects of previous over-investment and mal-investment, while preserving their cause." I ought not, however, to spoil Mr. Knorr's very able and fair analysis by such summary notes and quotations. These chapters must be read by all who are interested in or concerned with commodity control.

Finally Mr. Knorr gives us fifty pages on post-war demand and supply prospects, and the issue of post-war control. He is led to the conclusion that after the transition period tin consumption will not exceed the average absorption in the late nineteen-thirties, and therefore if the pre-war capacity of the Far East is restored, the industry will " again be confronted with the alternatives : depression or renewed output control." Mr.

Knorr comes down in favour of free competition and against any attempt at "planned disinvestment over time," though he suggests that the United States, perhaps in co-operation with the United Kingdom, might help in easing the transition for Bolivia and in diversifying that country's economy. "The readjustment of productive capacity by way of unhampered competition will be a harsh, cruel and lengthy process, but it will work." And after much careful discussion his verdict is that "a buffer-stock scheme is far from being a cure-all," and that even the most suitable type of buffer-stock for tin "would operate on a precarious basis." As I write this review, the International Tin Conference is about to open in London. Even if it should agree with Mr. Knorr's forecasts of demand and supply after the transition period, I doubt whether it will accept his conclusions as to policy, but I do hope the delegates have studied his book—they will make wiser decisions if they have.

There are a few weak spots in this work to which one might draw attention, *e.g.*, a still insufficient investigation of costs, a neglect of the marketing organisation, inadequate treatment of the organisation of capital, etc., but when we have so much that is good, such criticisms would be captious.

Mr. Wickizer's book on coffee was published in 1943, and the copy sent for review at the time appears to have been lost on the journey. The value of the book must be judged on the dual basis of its full title. Another standard book on the world coffee industry and trade is overdue, and even if written during this present period of transition it would be valuable as the record of the inter-war epoch. Judged on this basis, Mr. Wickizer's book is not sufficiently comprehensive as regards production, particularly outside the American continents, and has little to say about marketing, though the consumption end and its problems are dealt with much more satisfactorily, and some new ground is broken here. On the other hand, this book is a good introduction, for it does bring out the salient facts and problems, at least from the American point of view, and that may really have been its main objective, especially in view of its relatively small size. As a contribution to the study of control schemes, either for coffee or in general, it can be reckoned only slight. In Chapter X, beginning on p. 136, Brazil's control schemes are reviewed, but without adding materially to existing knowledge of the subject. The English reader will indeed be grateful for the summary of the Pan-American conferences and the account of the Inter-American Coffee Agreement in Chapter XII, while Mr. Wickizer's warnings

in Chapter XIII as to the very limited applicability of the principles of this agreement to any future world agreement are sound and timely, even if on the obvious side. But the discussion of the immediate post-war transition period is already largely obsolete, though Mr. Wickizer can hardly be blamed for failing to foresee in 1943 the disappearance, as the result of four successive bad crops in Brazil, of what then seemed a certain surplus problem.

J. W. F. ROWE

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Cambridge.

The Analysis of Economic Time Series. Cowles Commission Monograph No. 6. By H. T. DAVIS. (Bloomington, Indiana: Principia Press, 1941. Pp. xiv + 620. 25*s*.)

IN the application of statistics to economics the data we have to deal with are often given in the form of time series, and it is an almost universal experience to find that successive values of the quantity we are studying are correlated amongst themselves. All ordinary tests of significance break down. What, then, is to be done? It is useful to turn back to the consideration of the simplest of statistical problems. Suppose we measure the length of a rod a large number of times. The resulting set of values is usually found to be well fitted by a normal distribution, which we can therefore use to describe the set of observations. Moreover, tests of significance can be devised which will show that the observations are independent of each other. Turning aside from the experimental evidence, we may also seek to justify the use of the normal distribution by assuming that the errors in our measurement are the result of a large number of small physical causes which are distributed independently, or nearly independently, for in that case it may be shown mathematically that under certain conditions such a sum tends to be distributed normally. We have thus constructed a plausible theoretical model of our experiment and shown that the experimental results do not differ significantly from it.

The same procedure must be followed in studying economic time series. The observations are given sequentially, and although each observation is correlated with the previous value, it is not functionally determined by it. It is therefore clear that the natural mathematical model to use is some form of "stochastic process" or process involving probabilities in chain. The theory of probabilities in chain was developed by Markov many years ago, and has wide ramifications in many branches of science, but the study of the particular types of process which are relevant

in economic time series is of more recent growth. An accurate account of such processes will be found in Wold's book *A Study in the Analysis of Stationary Time Series* (1938). The models proposed are of two types. In the first we suppose that the observations can be represented by the sum of a finite number of harmonics (the "functional" part) together with a superposed "error" which is independently distributed from one observation to the next. An attempt can be made to find the functional part by the methods of periodogram and harmonic analysis. This functional part of the process is supposed to continue indefinitely into the future, unchanged by any random alteration in the economic situation. The second type of model is either a finite moving average of a random series or the solution of a stochastic difference equation, and thus has the advantage of incorporating the effects of present random changes into the future history of the system. Having constructed a theoretical model of the phenomena and studied its behaviour, we must then ask whether it can be plausibly fitted to our data, and we do this by applying significance tests.

In the present book Professor Davis has amassed a large amount of information on these problems, together with much highly speculative matter. The first chapter introduces the problem by its history and describes some typical economic series. After discussing various economic crises (including an interesting account of the tulip mania in Holland), he gives an introductory account of trends, harmonic analysis, stochastic difference equations, serial correlations and the variate difference method.

In the second chapter he describes the technique of Harmonic Analysis and applies it, after periodogram analyses, to various economic series. However, Wold has shown theoretically, and Kendall experimentally, that harmonic analysis and periodogram analysis cannot be applied to such material, for once we admit the possibility of random changes having effects which are incorporated into the future of the system, periodogram analysis breaks down. The third chapter deals with the much more important subject of serial and lag correlations, and gives a number of interesting examples and an outline of the important work of G. U. Yule and Sir Gilbert Walker. The chapter ends by relating lag correlations to the theory of supply and demand.

The third chapter deals with completely random series and various tests for complete randomness, but a great deal of work has been done on this subject which is not referred to here. The author also describes the construction of non-random series from

random series by differencing or summing, and proves Slutzky's sinusoidal limit theorem. The fourth chapter deals with "The Degrees of Freedom in Economic Time Series," and is really an attempt to discuss the significance problem. The author begins by drawing an analogy between energy in mechanics and variance in statistics, which I did not understand. He then discusses Schuster's, Walker's and what the author calls Fisher's tests of significance in harmonic analysis. But apart from the fact that harmonic analysis is irrelevant to the problem of time series, all these tests assume that the series is completely random, and as this is never the case in practice (and if it were, there would be no point in making the analysis), the tests are irrelevant. No attempt is made to discuss the significance of a serial correlation. In 1942 R. L. Anderson obtained the exact sampling distribution of such a coefficient, but Bartlett had suggested a method for finding its standard error in 1935. The remainder of this chapter is a short introduction to factor analysis.

The sixth chapter describes various methods of fitting trends, including the variate difference method and the use of the logistic curve for graduating the growth of population. Chapter Seven gives a large number of examples of periodogram analyses, and Chapter Eight discusses various economic theories which have been put forward to explain oscillatory movements, concluding with an interesting discussion of Volterra's equations.

Chapter Nine deals with statistical distributions of wealth and income, including Pareto's and a new distribution due to the author. The tenth and eleventh chapters deal with the equation of exchange and various dubious methods of forecasting time series. The last chapter is an attempt to provide an economic theory of history based on economic cycles, and is even less critical than the previous chapters, for among other things the author seems to believe in a fifty-year "cycle" in major wars (the book was written before Pearl Harbour).

The book gives the impression that the author, confronted with a large amount of interesting data, had chosen mathematical methods for dealing with it without asking what they meant or discussing the statistical significance of his results. However, economists and statisticians must be grateful for the large amount of information and references which are here provided on this most difficult subject.

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Rudimentary Mathematics for Economists and Statisticians. By W. L. CRUM and JOSEPH A. SCHUMPETER. New York and London: McGraw-Hill, 1946. Pp. ix + 183. $2.50.)

ABOUT three students of economics in every four seem to have resolved that all mathematical methods are difficult, even the methods which they conquered with ease at school. To those afflicted with this irrational belief, Professor R. G. D. Allen's *Mathematical Analysis for Economists* is too strong a medicine; and the attempt of two eminent Harvard professors to cure by milder doses, disguised with syrup, could therefore be most useful. The prescription is to present the elements of co-ordinate geometry, of differential calculus (including differential equations), and of the theory of determinants, all well mixed with economic illustrations. The mathematics and economics are accurate, without being pedantic; the style is reasonably clear, though wordy.

It is difficult to judge the book without trying it on some undergraduate guinea-pigs; but it hardly seems likely to succeed in its purpose. Firstly, it certainly does not teach the mathematics appropriate for statisticians; integration is mentioned only incidentally, and its connection with areas under curves is not referred to at all. Secondly, the treatment is in some cases so brief that it would confuse the student further without affording him any guide for action. It would be well worth while if the elements of the theory of matrices and determinants could be taught; for that theory has a natural appeal to the mind in its coherence and beautiful simplicity. But to detach, for consideration in seven pages, certain ideas about determinants merely gives an impression of ponderous and useless wizardry.

But a more serious objection can be raised against the whole method of the book. It is entirely appropriate to help the student who already knows mathematics to apply his knowledge in the economic field; it is not appropriate to use his knowledge of economics as a means of teaching him mathematics. A new discipline should be taught with the assistance of the simplest ideas possible, preferably ideas familiar since early childhood—so familiar that they are "obvious." Ideas of cost, price, marginal utility, elasticity are new to the student, and therefore involve more strain on the mind than the familiar thoughts of position, time, speed, slope and so on.

Perhaps Professors Crum and Schumpeter will one day give us an enlarged edition, not so exclusively economic in its illustrations, and with enough detail to guide the student in the use of his

new knowledge; so that he may be "a Doer of the word, and not a Hearer only, deceiving himself."

CHARLES F. CARTER

Marshall Library,
Cambridge.

The Condition of the British People 1911–1945. By MARK ABRAMS, with a Foreword by G. D. H. Cole (London: Victor Gollancz, 1945. Pp. 119. 6s.)

IN this short study prepared for the Fabian Society Mr. Abrams has brought together in compact form much of the information relating to changes in the working-class standard of life over the past thirty or forty years. His intention is to demonstrate in quantitative terms the improvements which were already being set in motion in the first decade of the century, when the influence of a political labour movement was beginning to be felt. In his Introduction he speaks of "the years since, in spite of the interruption of two world wars", as "constitut(ing) little more than a coherent and unfaltering development from those roots." As Professor Cole points out, this booklet supplements his own pre-war *Condition of Britain,* differing from the latter in being "essentially economic in scope and in making a definite attempt at comparison of the present with the situation of the British people on the eve of the first world war."

One might be inclined, perhaps, to quarrel with Mr. Abrams' historical perspective—with his emphasis on the beginning of the century as the great turning-point in social improvement, when started the "ferment which broke Britain loose from the standards of the nineteenth century"—and to think that, in his zeal to give shape to his "Edwardian revolution," the author over-simplifies and overdraws certain features of his picture. Some of this sharpness of emphasis should probably be tolerated as journalistic licence designed to catch the attention of his readers. The Foreword, as if to meet this criticism, remarks that, although "averages are misleading unless we bear in mind the effects of unemployment in the distressed area and the continuance, albeit on a somewhat reduced scale, of absolute poverty and slumdom in every big city, of serious malnutrition, especially in the larger families and of sharp inequality of educational and social opportunity," "nevertheless the economic advances are undeniable and only deliberate obscurantists contest them."

With the caution that the reader might do well to maintain an independent focus on the events described, and not always

accept the author's, this booklet can be recommended as a very convenient summary for elementary students, giving to them a concise generalised picture of the social scene and particularly of lines of change. The author selects and presents his facts with discretion and ability and with clarity; and although there is plenty of detail, he does not allow any reader to lose the wood in the trees. Moreover, he stresses regional comparisons as well as comparisons over time. After three opening chapters on population trends, we pass *via* a brief chapter on regional differences in age composition to urbanisation and the impact of number and size of families upon the housing problem. There follow analyses of the occupations of the working population, of employment and unemployment (the latter all too brief) and of the income and expenditure of the population. The book closes with a useful *résumé* of the main poverty studies from Charles Booth to the Birmingham enquiry of 1939. In a concluding summary the author makes his bow once more to the "Edwardian revolution," adding the comment that "to-day it is clear" that its "methods even when pushed to their limits are by themselves inadequate to accomplish all its purposes."

M. H. DOBB

Cambridge.

The Spirit of Russian Economics. By J. F. NORMANO. (New York: The John Day Company, 1945. Pp. xiv + 162, $2.00.)

THIS booklet, published in conjunction with the Russian Economic Institute in New York, gives a summary account of Russian economic writings from the dawn of the Slavophil-Westerniser controversy at the beginning of the nineteenth-century up to the present day. The author composes his account easily and gracefully, and does not allow it to be unduly burdened by his own considerable erudition.

He stresses the influence which English economic thought had upon Russian liberal circles in the early part of last century. Earlier writers of Mercantilist *bouquet* like Pososhkov "drew their knowledge and conclusions from observation of Russian actuality and not from foreign literary sources." But Speransky, the adviser of Alexander I, was an admirer of Adam Smith and surrounded himself with "Smithians"; and even Alexander in his liberal period was under the influence of Smith and Bentham. Alexander Radischev returned from the University of Leipzig as an admirer of English thought. Translations of Bentham

started in the official *St. Petersburg Journal* in 1804, and a monument was erected to Arthur Young in a village in the Moscow *gubernia* in 1807. Even Pushkin has a slanting reference to talk about the wealth of nations among the youth of the time. By contrast, the middle and later nineteenth-century, under the influence of Herzen, Chernyshevsky and Dobrolyubov, was more largely influenced by German writings and by Marx (although interest in Marx was linked with an interest in Ricardo); and Marx himself learned Russian in order to study the Russian agrarian question and took part in the Narodnik controversy. About this controversy, as well as about the literature of Russian agrarian studies in general, one might have expected the author to tell us something more.

On recent controversies the author is at times suggestive, and maintains a commendable objectivity; but he whets our appetite rather than satisfies it. There is more in these last two chapters about general trends in political and social thought than about economic theory as such; and lightness of touch seems to become a graceful cloak for lack of anything very much to say. The legacies of Marx and Bakunin, the influence of *sobornost*, Lenin and the controversy about Pokrovsky flit by, without our being told anything substantial as to where these jostling ideas fit in. As an introductory essay this booklet can be recommended to those with some acquaintance with Russian history. But it never lingers for long over any one current of thought and never goes at all deep.

M. H. Dobb

Cambridge.

Prix, monnaie et production. Essai sur les mouvements économiques de longue durée. By Robert Marjolin. (Paris: Presses Universitaires de France, 1941. Pp. 367.)

La Monnaie et les systèmes monétaires. By Bertrand Nogaro. (Paris: Librairie Générale de Droit et de Jurisprudence, 1945. Pp. 251.)

Dr. Marjolin's large volume, to which Professor Charles Rist has contributed a preface, is concerned with long-term or secular changes in prices.

In Part I the author, after giving a useful summary of the development of recent monetary thought from Wicksell and Myrdal to Keynes and (with reference to the elasticity of anticipations) to Hicks, proceeds to an analysis of the various factors which could cause and sustain a general movement of prices in

a given direction over periods longer than those covered by a trade cycle. For the purposes of this analysis he relies mainly on the modern doctrine of the relationship between the marginal efficiency of capital and the rate of interest—a doctrine which would appear to attach an excessive importance to the rate of interest. He concludes that rising prices *must* be associated with an increase in the quantity of money, which has the dual effect of raising the marginal efficiency of capital and lowering the rate of interest; but a secular fall in the rate of interest does not require a corresponding change in the volume of money, it being sufficient for the marginal efficiency of capital to fall below the rate of interest. He further enters into rather an elaborate analysis of the expected effect of secular rises or falls in prices on such factors as the degree of capital intensity, the productivity of labour, the level of real wages, etc. It cannot be said that anything very new emerges from this part of Dr. Marjolin's book; it does not do much more than reflect his own discovery of the significance of the new ideas which have been crystallised and systematised in the work of Keynes.

Part II is of greater interest for the English economist, because there the author, using mainly French statistical series, endeavours to obtain an inductive verification of the general theoretical conclusions arrived at in Part I. He approaches this task in a laudably objective manner and without forcing the facts to fit his theories. On the whole, he finds that they fit fairly well, but when they do not he puts forward alternative, if very tentative explanations. The results he obtains are often of real interest, and even when the reader is not convinced he is conscious of an honest attempt to interpret the evidence on its own merits. Dr. Marjolin's statistical data end with the year 1914, which means that the whole of his inductive study is confined to the period when the world in general was on a metallic standard, and when, therefore, changes in the rate of production of the precious metals, especially gold, were of paramount importance. On general grounds he concludes that an increase in the output of gold will have in varying measure the three following effects: first, it will tend to raise the marginal efficiency of capital by providing a new source of investment; secondly, the demand for commodities coming from the producers of gold will raise their prices, and so stimulate additional investment, and thirdly, the increase in the supply of basic money will tend, *ceteris paribus*, to lower the rate of interest. Looking at the nineteenth century, he finds evidence that the first of the foregoing effects played an important rôle only in the period 1895–1914, the second was

active both in 1852–56 and in 1895–1914, while the third (the increase in the stock of money) was operative throughout. Furthermore, the author finds that there was an inverse relationship between secular price changes and capital intensity and the rate of growth of industrial production, both the latter declining in periods of secular rising prices and increasing in periods of secular falling prices. The only exception to this general rule was during 1895–1914, when technical progress was so rapid as more than to offset the unfavourable effects of secular rising prices upon productivity.

But when it comes to finding what might be termed a rational economic reason for secular changes in prices, Dr. Marjolin is driven to the conclusion that the evidence is merely negative. " For the economist these are movements which are purely accidental, which could just as easily not have taken place, and which were not even necessary for the realisation of economic progress."

Part III of this work consists of a methodological discussion concerned mainly with the views put forward by the distinguished French economist Simiand.

It may be added that, as is usual in French works on economics, there is no index, which is a serious defect in as lengthy and detailed a book as this. When will French writers realise that a very perfunctory table of contents is not a substitute for a proper index ?

Professor Nogaro has written a short book summing up the results of forty years' study of monetary phenomena. Unlike the work just reviewed, of Dr. Marjolin, it gives a slightly old-fashioned impression because he adheres to the conventional treatment of money, and, while critical of certain aspects of traditional classical doctrines, he does not make use of any of the concepts introduced by the modern Swedish–Keynesian school of writers. He gives a convenient and very clear summary of the evolution of monetary systems, ending with a general discussion of the causes which give rise to changes in the value of money. Here he stresses the importance of non-monetary factors, in particular of those which affect the supply of and demand for individual commodities, and concludes that "movements of prices are the resultant of a very complex aggregate of actions and inter-actions, and, with the exception of large-scale inflation, ought not to be regarded as essentially monetary phenomena."

C. W. GUILLEBAUD

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International Sea Transport. By Brig.-Gen. Sir OSBORNE MANCE, assisted by J. E. WHEELER. (1945. Pp. xii + 198. 12*s*. 6*d*.)

International Telecommunications. By Brig.-Gen. Sir OSBORNE MANCE, assisted by J. E. WHEELER. (1943. Pp. xii + 90. 7*s*. 6*d*.)

International Air Transport. By Brig.-Gen. Sir OSBORNE MANCE, assisted by J. E. WHEELER. (1943. Pp. x + 117. 7*s*. 6*d*.)

International Rail Transport. By Sir RALPH L. WEDGWOOD, assisted by J. E. WHEELER. (1945. Pp. xii + 162. 10*s*. 6*d*.)

(Issued under the auspices of the Royal Institute of International Affairs by the Oxford University Press.)

THESE four little books summarise, almost too briefly for clear comprehension, a vast amount of information. Each reviews—and this is their principal contribution—the international organisation in existence at the outbreak of war in 1939, with notes on the origins, constitution, powers, and subsequent history of the many international administrations, treaties and conventions whether ratified or not. Sir Osborne Mance's *International Sea Transport* includes a useful account of State policy towards shipping between the wars, and Sir Ralph Wedgwood deals extensively with the post-Versailles railway settlement.

The space allotted does not permit adequate discussion of the economic problems involved in contemporary international communications. The treatment of these questions has had to be unduly curtailed, and wears consequently an all-too-conventional air. But no contribution, however short, can disguise the impact of politics. Sir Ralph's study is an unhappy reminder of the frequency with which railroads between the wars were enlisted to serve in the conflicts between Governments, and of the many and often absurd obstacles with which sovereign States in Europe and Asia impeded the progress of co-operation. They order these things far better in North America, even though the Association of American Railroads has not yet been able to extend its activities much beyond the limited but very important realm of technical standardisation.

In his *Sea Transport* Sir Osborne Mance brings out the comparative freedom which marine communication has always enjoyed from Government regulation of charges, unless the attempts of the U.S. Maritime Commission to limit the powers of the North Atlantic Conference be regarded as such. But it is equally obvious

from his *Air Transport* that, once again outside the North American continent, civil aviation has been bedevilled even more than the railways by national frontiers, now extended into a third dimension, by the embarrassing alacrity with which diplomats have been ready to take up the cudgels on behalf of the aviators, and on occasion by duties on spares required for replacement in foreign flag aircraft, taxes on fuel carried in their tanks, and other ludicrous manifestations of the protective spirit. National sovereignty has so far managed to clip the wings of the birdmen only too successfully. Puck still holds the globe girdling record, while we humans are grounded by passport control and customs clearance, and our pilot waits for free passage.

GILBERT WALKER

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Commercial Policy in the Canadian Economy. By ORVILLE JOHN McDIARMID. (Cambridge, Mass.: Harvard University Press (Oxford University Press), 1946. Pp. xiv + 397. 25*s*. 6*d*.)

IN writing this book the author set out to give a comprehensive account of the development of Canadian external economic policy. What he has in fact achieved is a very exhaustive history of the Canadian tariff. It is a clear and well-documented story of the development of the Canadian tariff structure, one of the most complex ever erected by a Western democracy, and of the system of subsidiary protective devices, such as dumping duties and arbitrary valuations, which have played an important part in Canadian fiscal policy.

Let it be said, however, that the very close attention given to tariff history has led the author to neglect numerous aspects of the case which one would have expected to find more fully developed in a study of the place of commercial policy in the Canadian economy. In this respect the opening chapter raises hopes which are later disappointed. Here the author rightly points to the significant part played by the tariff as a means of financing the development of the country during the period of westward expansion. But he scarcely mentions this point again as the story progresses, nor does he adequately relate the institution of high tariffs in Canada either with the historic post-confederation decision to extend the Dominion to the

Pacific and to colonise the area between the Central Provinces and British Columbia, or with the associated policy of using an all-Canadian railroad system as one of the major methods of promoting this end. If a trans-Canadian railway was ever to begin to be self-supporting, it seemed essential that there be a group of industries in Central Canada capable of providing revenue on the east–west haul to cover part of the cost of the essential west–east carriage of grain. In the absence of a tariff many of these manufactures would have been imported by the western provinces from the United States over American roads. These may well have been economically expensive decisions at the time, but the political results flowing from the promotion of east–west channels of trade within a unified Canada are an important if intangible element in any estimate of the real net cost of protection to the Canadian public.

This attention to tariff history in isolation also leads the author to attribute to contemporary controversies over its development a greater significance than they really deserved. It is interesting, for example, to compare the treatment of the election campaign of 1911 (as if the tariff were the only issue) with Laurier's post-election statement: "It was not reciprocity that was turned down, but a Catholic premier."

Two other aspects of Canadian commercial policy should be mentioned here, since they are rather cursorily dealt with in this book. Not until the concluding chapter does the author specifically refer to the effect of the tariff in fostering monopolistic conditions of industrial output. The tariff was by no means the only factor in the pronounced tendency towards monopoly in Canada, but it played a significant part in particular industries (coal distribution, petroleum, cigarettes). This theme surely deserves fuller treatment than is accorded to it here.

Then again, no serious discussion is attempted of the regional incidence of the Canadian tariff structure. Any clear picture of the rôle played by commercial policy in a federal system should attempt to assess the extent to which tariff protection altered the terms of trade between different (and in this instance geographically distinct) economic groups. It is of course a commonplace to refer to this tendency in Canada, almost as a *locus classicus*. But a work of the pretensions of this book might have been expected to devote a whole chapter to this question.

As regards exposition, while Mr. McDiarmid writes a clear and readable style, it would undoubtedly have improved the clarity of the earlier chapters if more of the details relating to tariff rates and tariff changes had been relegated to footnotes

and the text reserved for the main development of the argument as is done in Chapter XII. The absence of a bibliography is to be regretted; for a survey of the footnotes indicates that the author has delved deeply into the diffuse and widely dispersed sources of material on this subject.

Despite these shortcomings this work is, to this reviewer's knowledge, the first complete detailed history of the Canadian tariff. And while it does not succeed in presenting a complete account of the part played by commercial policy in the Canadian economy, it does nevertheless bring together all the material on the development of the Canadian tariff as a necessary prerequisite to any complete study of that subject.

O. L. WILLIAMS

London.

Canadian Agricultural Policy, The Historical Pattern. By VERNON C. FOWKE. (Toronto: University of Toronto Press, 1946. Pp. 304. 19*s.* 6*d.*)

THIS book, written with the sweep and documentation of D. G. Creighton's *Commercial Empire of the St. Lawrence* (1937), though with less literary elegance, takes us through the centuries from New France to the Dominion of 1930 and examines the evolution of agricultural policy in relation to the development of the Canadian economy through its well-known phases—fisheries, furs, timber, wheat, and again more wheat in the Canadian West up to the point when Canada, her western limits reached, rolls back her north of minerals and power. Each chapter, with its wealth of detail, is ably summarised, and full use is made of fundamental concepts—the moving frontier, the St. Lawrence at once a highway of commercial empire and an international water, and the constant concern of agricultural policy with immigration and land settlement, in view of the at times relentless pull of the United States. In the latter connection the book may be read side by side with Hansen and Brebner's *Mingling of the Canadian and American Peoples* (1940).

The author's scheme has the advantage of keeping under notice throughout the regional peculiarities of different areas—the Maritimes with their emphasis on products other than grains (though here we might be told more of Prince Edward Island's fur-farming), Ontario and Quebec with their mixed agriculture and the difference in structure and outlook between the two, the Prairies with their overwhelming stake in wheat, British Columbia with its fruits and climatic attractions. He has no difficulty in showing that the phrase "Canada is basically an

agricultural country" means little, and indeed suggests error, and that agricultural policy is not concerned primarily with improvement for its own sake, but rather for its rôle as a source of provisionment, a cushion of defence, a breeding-ground (one section in Chapter II is quaintly headed "Problems of Procreation"), and above all as a creator of staple exports, to be handled by traders and transport agencies.

Matter, not easily found elsewhere, is the full account of the Canadian Government's effort to keep its livestock free of contagious disease and avoid the "scheduling" of live cattle to Britain (imposed 1892); the rôle of the Dominion Experimental Farm (1886 on), so closely associated with the name of Saunders, father and son; the relative importance of early frost resistant wheat in the northern belt and of the technique of dry farming (summer fallowing, etc.), in the southern; and the final chapter on Tariff Policy and the Farmer, which exhibits him now as protectionist and now as free trader, with an overriding concern for any policy which will diminish the risks and sudden set-backs of Prairie life. Much is said on railways and land settlement, though no continuous narrative is given of the C.P.R.'s record here; but it is important to be reminded (p. 163) that Canada's Homestead Act of 1872, by its block reservations for railways, nullified the American model of 1862. The evolution of the Grain Trade and Pools is summarised from the large literature on the subject, but nothing new is brought out, and the references to Agricultural Co-operation are rather trite, perhaps because the author holds that when we approach 1930 wheat-growing has had its day and must make way for minerals and pulp and paper as a dynamic force in Canadian life. But where should we be in England now without Canadian wheat and bacon? Furthermore, in these difficult post-war times it is important to emphasise in the sphere of policy Canada's double face, landwards towards America and seawards across the Atlantic. We shall not go wrong if we frame our policy in the light of Ottawa, inasmuch as Ottawa knows that she must frame hers in the light of Washington.

The book is printed and published with the excellence we associate with the University of Toronto Press (it is something to belong to a pulp and paper country!); and Professor Fowke of Saskatchewan, by his gracious acknowledgment to Dr. H. A. Innis, allows us to salute his book as yet one more fruit of the Toronto School of Economic History.

C. R. FAY

Cambridge.

The T.V.A. Lessons for International Application. By HERMAN FINER. (Montreal: International Labour Office, 1944. Pp. vii + 289. 6*s*.)

MANY articles, books and illustrations have appeared on the technical achievements of the Tennessee Valley Authority, and a book which explains the scheme of organisation and finance of the authority and its applicability internationally is very much to be welcomed. The T.V.A. has aspects of interest to political scientists, economists and planners as well as agriculturists, engineers and æsthetes, and Dr. Herman Finer has been successful in focusing upon these aspects without isolating them unduly from their context.

One problem in political science which the T.V.A. tried to solve was the creation, in the words of President Roosevelt's message of 1933, of a controlling corporation "clothed with the power of Government but possessed of the flexibility and initiative of a private enterprise." Another political problem was the division of powers between the Authority and the seven States in whose territory it operated—a problem that will loom still larger for any international authority. Dr. Finer tells us (p. 229) that some of T.V.A.'s "leading officers entered the Valley as though to conduct a crusade, and thus aroused resentment and opposition," and draws the moral that engineers employed internationally must be selected not only for their technical efficiency, but for quickly understanding the culture, labour and business practices of the country to which they are assigned. Other valuable political experience is reported in three consecutive chapters on the Corporate Agency and its Method of Operation; Management and Personnel; and Federal Controls and State Relationships.

To an economist the pricing and costing policy of such an integrated business as the T.V.A. is probably of greatest interest. The Authority provides means of navigation, flood control and electrical power, and these transactions have in common certain overhead costs such as dam construction and maintenance. The problem in what proportions to allocate the common costs of the authority was a critical issue, since T.V.A. electricity supply costs were used as a yardstick whereby to measure the prices of capitalist public utility corporations, and their failure to exploit the high elasticity of the demand for electricity. Dr. Finer usefully devotes a short Appendix on the Allocation of T.V.A. Power Costs, the Profitability of T.V.A. Power Operations and the "Yardstick."

Planners, in the sense of persons concerned with the all-in development of resources for all-round future prosperity, will be particularly attracted by the chapter on the proper use of land, with its reference to soil surveys (pp. 51–2) and to the demonstration farms on which accurate records were kept of the effect of fertilisers and modern farming practices, and by the chapter on the advancement of economic opportunity, with its programme for the diversification of industry. Industries which seem to have expanded successfully in the essentially rural Valley are paper-making, textiles and apparel, food products and the tourist trade.

Sufficient time has elapsed since the initiation of the T.V.A. plan for some results to be assessed, and (in a chapter on indices of progress) Dr. Finer has made good use of the very full statistical information officially provided by the United States. In the Valley States, as in the South-east generally, *per capita* income is much below the average for the country generally, but whereas in 1933 Tennessee and Alabama (the two States with the highest proportion of their territory within the T.V.A.) had *per capita* incomes 51% and 62% below the national average, by 1940 they were only 44% and 54% below. Clearly one of the many lessons for international application is the possibility of raising income of low-income agricultural nations by the dispersion of manufacturers selected for their comparative efficiency in rural locations. Other lessons, economic and administrative, which arise from Dr. Finer's enquiry will also be of the greatest value if Valley Authorities (R.V.A ?; D.V.A. ?) are planned internationally. These lessons are succinctly put in the final chapter.

P. SARGANT FLORENCE

University,
Birmingham.

The Letters of William Davies, of Toronto, 1854–61. Edited by W. S. Fox. (University of Toronto Press, 1945. Pp. xiii + 144. $2.00.)

PROFESSOR INNIS'S Foreword to this volume of letters emphasises that the business conducted by William Davies was of the greatest importance as showing how supplies could be drawn from the United States, both for consumption in Canada and for shipment to England, under the Reciprocity Treaty of 1854. Given a considerable supporting weight of personal knowledge, it is true that the reader can understand the effects of the Recipro-

city Treaty more intimately after reading Davies' letters. He can be seen journeying down into the States to buy his butter and cheese, and, above all, his hogs, and on occasions selling his

It is interesting, too, to note that whereas Davies tried to create a market for Canadian and American butter by selling at low prices in England, he accepted the English tastes in bacon and beef as unalterable and spent his life in trying to get the breeder to produce for this market.

But the further statement that the letters are a valuable contribution to the study of Canadian business history is not so acceptable. By 1861 (the end of the main period covered by the letters) Davies was only beginning to get into the food trade with the United Kingdom, and in so far as his operations extend beyond his personal control they lack detailed description. The credit which he requires to support him in his expansion from the retail food-trade of Toronto is obtained largely on a personal basis. Davies is able to discount bills, to negotiate bank loans, and to finance his increasing operations by means which terrify his staid brother; but the details are not set out in his letters. Likewise, when he fails and is tricked by his accountant and partner, we get only the solemn resolve to be more careful—not the details of the default.

To business history, in short, the letters add little. Such contribution as they make is personal; they show that personal probity, personal likes and dislikes, personal knowledge of English tastes in bacon and butter, and above all personal industry and determination, are the dominant factors in the creation of Davies' large-scale meat-packing and food industry.

This personal interest runs through the letters so vividly that one cannot put them down. A man who develops his trade within the short compass of this volume from spending the nights preparing chitterlings and scraping sausage-skins for his stall in Toronto market to the sure beginnings of a great export trade has his own grip of his readers. There is a strong under-current of Baptist stringency running through the letters; but no qualms are felt at proposals to sell goods in England without mentioning the fact that they come from the United States and not from Canada, or at a scheme to pass Canadian bacon off as Irish.

The editor has produced a sound and easily read text. The notes are at the general level of "Canadiana"—of greater interest to the inhabitants of Toronto than to the wider public.

There is no index, and the letters do not need one. They should be read straight through as a fine study of the personality of an emigrant, not analysed into a contribution to business history.

E. E. RICH

St. Catharine's College,
Cambridge.

Theorie des Mittelstandes. By FRITZ MARBACH. (Berne: A. Francke, 1942. Pp. 425. S. Fr. 15.)

EVER since the fifties, and particularly since the seventies of the last century, it was a wellnigh general and rarely contested opinion among economists that the middle classes of all lands were heading for extinction, bound to be ground to dust between the millstones of capital and labour. Then came the German revolution of 1933, in which the petty bourgeois gave convincing proof that he was very much alive and able to master both his antagonists at the same time. This dramatic event has led to a revision of ideas and reversion of sentiments, of which Professor Marbach's work is one of the fruits.

As a literary achievement this stout volume has serious shortcomings. It contains quotations without references (cf., *e.g.*, pp. 116 and 154); it contains references which are inexact, as when the author speaks of Marx's *Preface to Political Economy*, and means the preface to Marx's *Contribution to the Critique of Political Economy* (p. 126); and it contains quotations so mangled and distorted that they lose all character, as the unfortunate passage from Goethe on page 136, which is out of place anyway. In general the style is careless and unrefined, and colloquial banalities alternate with lyrical effusions which are just as unpleasing in their context.

But the substance of the investigation ought to interest us more than the form. Professor Marbach's main problem is, of course, the attempt to describe, or at least circumscribe, that many-sided and elusive phenomenon, the middle class. He comes nearest to a satisfactory solution, not in his formal definition (p. 137), which covers a whole page and tries to combine all-too-disparate elements, but in a polemical passage (p. 119) where he argues that the members of that class belong together because they have three interests in common: first, not to be made into proletarians; second, to set limits to the development of capitalist enterprise and to bring it under control; third, to combat all theories which do not acknowledge the fundamental justice and

social expediency of the principle of strict equivalence in exchanges. It is the last point which needs elaboration, the first two being perfectly plain, and it is here that Professor Marbach's main contribution to the discussion is to be found.

The author's social philosophy, which explains his approach to the subject, is a combination of Thomism and Marxism. Starting from neo-Thomist literature, especially the writers who favour a definitely anticapitalist interpretation of the Saint, he expounds the Thomist principle of equivalence in social and economic relations, which disapproves of all income that does not rest on positive achievement. The Marxian derivation and condemnation of surplus value, accepted by him implicitly and as a matter of course, seems to him essentially an application, or rather a more technical exposition of the same philosophy and economics; capitalist exploitation as unmasked by Marx is as typical a violation of the principle enunciated by the great Doctor, as can well be imagined. Professor Marbach thinks that a synthesis of these two streams of thought would afford the unifying ideology which the middle classes need to become a well-knit whole, that it is in accordance with their economic position and in agreement with their social outlook. Indeed, he sees very great practical and political possibilities in the adoption of such a creed. It would lead to a united front of proletariat and petty bourgeoisie against capital: the proletariat would acknowledge the small man's property, built as it is on modest savings out of labour (*Arbeitsvermoegen*) as justified and guarantee its preservation, while the petty bourgeoisie would abandon its opposition to the socialisation of the means of production in large-scale enterprises, the socialisation of all capital which is the fruit of unearned profits, the incarnation of surplus value and the perpetuation of the injustices of the capitalist system. Thus Professor Marbach reaches a position curiously reminiscent of Proudhon, of whom, surprisingly, he does not say anything. It is impossible to tell how strong the appeal of his ideas will be: small, no doubt, in this country and in North America; but it may find a well-prepared soil on the continent of Europe where the middle classes have ever been in search of an ideology that would reconcile their anticapitalist sentiments with older loyalties.

W. Stark

University of Edinburgh.

Étude Sociale Comparée des Régimes de Liberté et des Régimes Autoritaires. By JEAN LESCURE. (Paris: Les Editions Domat-Montchrestien. Second edition. 1946. Pp. 483. Fr. 300.)

THE arrangement of this book is simple. There are eight chapters, dealing with ideology, economic equilibrium, capital formation, conduct of the firm, foreign trade, money and prices, farming and social conditions. Each chapter has separate sections on Russia, Nazi Germany and Fascist Italy, with a brief introductory section on the corresponding institution under the liberal régime. If the sections be re-assembled, the book combines under one cover treatises of over 160 pages on Nazi Germany, just under 120 pages each on Russia and Italy, and over 60 pages on liberal institutions. Prof. Lescure—apart, of course, from his well-known works on trade cycle problems—has already published separate books on Russia and Italy. It is interesting to find that—judging by his allocation of space—he thinks the Russian system the most instructive for the conduct of the firm and for agriculture, the Fascist system for ideology and for social conditions, the Nazi system for the other chapter headings.

The main thesis of the book is as simple as its arrangement. "There is nothing which the classical liberal system need envy in the authoritarian régimes" (p. 9). And, in any case, there is much less difference than is commonly supposed, not only among the three different types of totalitarianism, but also between them and classical liberalism. (One senses some latent contradiction between these two parts of Prof. Lescure's findings.) The logic of economic laws ("l'économie rationelle") has conquered the dictatorships. A lot of "useless blood" (p. 23) has been shed, especially in Russia, in a wasteful and futile attempt to escape from economic law. The dictatorial "Systems" have to bow to triumphant "Science".

It is clear that Prof. Lescure's thesis is inspired by a peculiarly narrow and technical definition of economic analysis. True enough, the law of diminishing marginal utility and Gresham's Law and King's Law and hundreds of other laws remain true under any system, yet surely there is such a thing as a different economic philosophy and its use of the same techniques may be a minor similarity concealing the major difference. One feels tempted to say: "Well, they still breathe the same way in the U.S.S.R., too." That such essential parts of the liberal system as the free pricing process can be incorporated in the Socialist

system has been shown by the Dickinson–Lange–Lerner group (of whose work Prof. Lescure seems not aware). Yet would we conclude from that that liberal "Science" "conquers" Socialism?

There is something unsatisfactory about an attitude by which the economist is asked to neglect all study of economic purpose, to "state without understanding" (p. 475). Are we not bound to under-estimate the differences between liberalism and totalitarianism, if the differences lie not in what can be stated but in what must be understood?

It will be apparent by now that Prof. Lescure's book is pervaded by a more vigorous and unsophisticated liberalism than is to be found in this country at the present time. Who in this country would dare to state so categorically that "under liberalism, the recruitment of entrepreneurs is spontaneously good or excellent"? (p. 184). Or that the managers "have contracts like workers; they can be sacked from one day to another"? To take the fear of the sack for granted as a praiseworthy social incentive? To assume that capital formation is due to private voluntary saving by individuals? That "good money is gold money"? (p. 280). To discuss private enterprise without breathing the word monopoly? Never once to mention security of employment as one of the factors in the condition of workers?

This brand of liberalism will seem to many too ancient-flavoured. This is not a promising viewpoint from which to understand the totalitarian régimes. But any economist should study the masterly demonstration (pp. 242–246) that Schachtian methods of foreign trade are incompatible with the idea of equal trading partners but presuppose a "leader" and satellite countries. Prof. Lescure also noticed—before the war—that the attempts at autarky weakened Germany, even for war-making.

The book does not distinguish between the U.S., British or French institutions; they are all lumped together as "systems of liberty." It must be said, however, that some of the arguments which are put forward as applying to all "systems of liberty" really apply to France but not to Britain. The statements on the part played by the commercial banks in industrial development are a case in point.

While the section on Nazi Germany maintains an exceptionally high standard of accuracy, one cannot help feeling that Prof. Lescure is sometimes too remote an observer to do full justice. The statement that the severe penalties attached to the German foreign exchange restrictions before the war had "stamped out fraud" (p. 312) could not have been made by any one in closer

touch with events. Similarly, the statement that National-Socialist doctrines contained a "grain of demagogy" (p. 373) strikes one as perhaps just too detached. Exchange rate "stability" also appears much less fictitious than it really was.

This book, generally, deals with events up to the outbreak of war. The original MS. was completed on August 25th, 1939! There seems something pathetic about a Frenchman stating, under that date, that Germany was approaching a crisis of over-supply with unco-ordinated State contracts (p. 171), or to see him imagine that the young people in German labour camps were being taught "civics, and of the home, fatherland and the rights of the family" (p. 374); or to read of his advice to the Germans to reduce State orders.

This book is the second edition, published in 1946, but Prof. Lescure, as a matter of deliberate policy, has not taken in war-time developments. This he defends by saying (p. 10) that "the war economy has nothing in common with the peace economy. . . . Everything is different" and (p. 478) "the war is not instructive for the peace." This may seem to others, as it does to the present reviewer, wrong reasons for a wrong decision. This is especially so since one cannot agree with his claim that the Anglo-Saxon war effort is final proof of the superiority of the free-enterprise system (p. 478). What about totalitarian Russia? What, indeed, about free-enterprise France?

The reviewer hopes that his critical comments seem not incompatible with the admiration which he feels for a work of stimulating scholarship.

H. W. SINGER

The University of Glasgow.

Das Lohnproblem. By ALFRED AMONN. (Berne: A. Francke. Second edition, 1945. Pp. 78.)

PROFESSOR AMONN holds the Chair in Economics at the University of Bern. His little book on wages seems peculiarly difficult to assess as a whole. For while its general theoretical background appears quite indefensible, yet in detail it is full of stimulating ideas.

The book is a pure model of "classical" argument, and Keynesian and other developments seem to have left it virtually untouched since the first edition appeared in 1930. It could serve as an illustration of the sort of contradictions to which this approach is liable to lead. Thus we read on p. 33 that high rates

of interest and low wages " lead to an increase in capital and thus to an increase in the amount of labour demanded," only to be told eight pages later—when substitution is on the agenda—that " with a low rate of interest and high wage more capital and less labour will be used, with high rates and low wages more labour and less capital." Nor is the contradiction mitigated by the possibility of wages and interest moving sympathetically, for Prof. Amonn holds strongly that lower wages lead to *higher* rates of interest ! Similarly, the method adopted in the book of first discussing wages *as a share* and then introducing productivity as a sort of independent *numéraire* is bound to lead to new confusion. The individual demand curve for labour is unblushingly applied to the economic system as a whole.

Yet, as has been said already, the book has many compensating virtues. The ambiguity of the trade union objective of " high wages " is brought out very well. There is the interesting suggestion that the " money wage fallacy " may have helped to popularise tariffs as a " protection " of wages (but to dispose of this fallacy does not in itself dispose of the argument that tariffs may protect *employment*). There is a hint on p. 57 that wages might be maintained in a slump by the imposition of employment quotas on employers. To many readers this will appear as putting the cart before the horse. We are more used to think of employment policy as an end in itself and of wages policy as a means, than *vice versa* ; the author, however, writes on the assumption that there is no active State policy to maintain a " high and stable level of employment."

The treatment of legal minimum wages as affecting wages indirectly through demand and supply may at first seem a little formalistic. Yet on reflection it seems possible that even an " ineffective " minimum wage—*i.e.*, one below the market wage—may in fact raise the market rate, since it may affect the whole demand and supply curves. One should, therefore, be careful before thinking of a legal minimum as " ineffective."

Another point of interest—arising from the Swiss background—is the great importance attributed to foreign trade problems in connection with wages policy. Emigration of capital appears as the rock on which a " high-wages policy " must founder. Following this argument further, one should expect trade unions in small countries to be keener on nationalisation than in large countries where " emigration " of capital will be less important.

H. W. SINGER

The University of Glasgow.

Relief and Social Security. By LEWIS MERIAM. (Washington, D.C.: Brookings Institution, 1946. Pp. xx + 912. $5.)

THE problem surveyed in this volume is the methods by which the United States could develop a universal, comprehensive and co-ordinated system of social security to relieve want at a cost which the nation could afford, without interfering seriously with the American way of life. The conclusions reached are based upon a valuable analytical account, with historical background, of the existing systems of relief and social insurance in the United States, together with emergency experiments in the United States during the depression years, and a summary of British and New Zealand schemes. Throughout the book attention is directed separately to social, financial and administrative aspects.

The depression of the 1930's, which made the provision of relief and social security in the United States a major function of government, found the country unprepared. Notwithstanding much hasty improvisation and many piecemeal measures, valuable experience was gained over a wide field, but the present schemes do not provide, in the opinion of the author, the bases for a comprehensive system, and a new approach is needed. The account given of present methods indicates the magnitude of the task of providing a comprehensive scheme and reveals the complexities of the problem and the variety of principles and methods which have been applied, many of them being confused and inconsistent. Useful statistics are given showing the costs and benefits of each type of existing scheme, and, as figures being given separately by States, they enable conclusions to be drawn about differences between the main geographical regions of the country.

The essential part played by the Federal Government through the instrument of grants-in-aid to the States and its powers of taxation is indicated. Attention is directed to arrangements made under the Social Security Act, 1935, and subsequent legislation for providing relief for needy aged persons, dependent children living with relatives, and for the needy blind. In addition to these arrangements to meet special needs, schemes of old age and survivors' insurance and unemployment insurance are described, under which benefits are paid without means tests. The Federal Civil Service Retirement Scheme and a retirement scheme and unemployment insurance for railroad employees are also reviewed. The schemes without a means test are financed variously—the old age and survivors' insurance fund, for example, being based upon joint contributions of employers and

workpeople, while the unemployment insurance fund is based upon a Federal tax on employers of 3% of the wage bill. The present position is seriously defective because many categories of workers are without provision, while the different methods of financing give rise to anomalies. Thus, though measures for assisting the farming communities have been applied (and these are outlined), more than eight million farmers and farm labourers, representing 22% of the total population, are excluded from most of the benefits of Federal relief and social security schemes, despite the fact that, directly or indirectly, people in agriculture are taxed for the benefit of others. Then, while Federal provision is made for the needy blind, other classes of disabled under sixty-five years of age are left to be cared for by State and local authorities, and are neglected by some States because the available relief funds are used almost exclusively for the categories covered by Federal grants.

In reviewing British and New Zealand schemes, it is noted that the New Zealand approach to the problems of relief and social security is radically different from that in the United States, while Britain stands in a somewhat intermediate position. The New Zealand system of contributions based not on pay-rolls, but on a 5% income tax paid by every one is favoured, particularly for the reason that employers have no special incentive to dismiss workpeople in bad times. The author considers that so far as monetary benefits are concerned New Zealand represents complete protection against want at an approach to the lowest cost. Economies are effected by the application of a means test, except for superannuation, by fixing maximum benefits near the minimum of subsistence, and by varying benefits according to the number and type of dependants. These provisions enable savings to be realised without causing hardship, whereas under the American Works Progress Administration the same payment was made to workers who were single as to married men with large families.

The descriptive part of the book is followed by a general discussion of the purposes of relief and social insurance, the nature of needs and the advantages and disadvantages of means tests. Estimates are made of what the cost would be in the United States of a universal comprehensive system, alternative totals being given which show a wide range on the basis of different assumptions. In considering methods of financing schemes the incidence of taxes paid by employers and workpeople is examined, and the relative merits of using special earmarked taxes or of meeting costs from general revenues are discussed. The author

considers it undesirable to base State schemes on principles and methods appropriate to private insurance, and there is an interesting section on the question whether in governmental schemes the maintenance of financial reserves is necessary. Though the inconsistencies and anomalies of the United States system should be removed, its development into a unified Federal system would be unsatisfactory as this would involve a radical departure from the principles on which the government in United States is founded, with responsibility shared between the Federal, State and local authorities. The relationships of social security schemes to the employment services, the schools, the health services and agricultural agencies are examined.

In suggesting reforms, the author recommends extension of American schemes to cover categories now excluded, and considers the establishment of a comprehensive system to be essential. He emphasises that a social insurance system should go no further in redistributing wealth than is necessary to relieve need, and to do otherwise would be an interference with liberty and individual opportunity. Relatives with resources should be required to maintain needy members of their families, a means test is favoured, and benefit payments should take account of the number of dependants. The author is attracted by the New Zealand system of a universal flat income tax as the soundest method of financing social security schemes, and he advocates that taxes levied on employers should be abolished. The meeting of the cost of social security schemes by a general tax serves to remind people that benefits must be paid for, and this is a check on extravagant legislation. For this reason also the building up of an actuarial reserve based on contributions is supported, even though in practice the Government uses the funds of the reserve to finance its general expenditure. It is made clear that " expenditure for relief and social security must be made from current income. It is impracticable to meet them from any system of reserves. Insurance reserves of the national government consist only of its own obligations to pay in the future. Consequently the reserve system does not and cannot actually lessen the burden on future generations " (page 869). The United States is considered to be far too large and too diverse to permit of the full direction of a comprehensive social security scheme from Washington, and the conclusion is reached that activities of government which touch the individual, the family and the community must be coordinated and largely controlled at local levels, with the Federal Government laying down general conditions and contributing

substantially by grants-in-aid. " While the Federal Government ought to ensure a minimum standard of benefit payments for relief and social security, an absolutely uniform system of social security and relief would not be desirable because of the differences in the planes of living and in the costs of living in the various sections of the nation " (page 870).

This book should be consulted by all who are interested in the evolution of social security and in its economic implications.

J. Henry Richardson

Leeds University.

Malay Fishermen: Their Peasant Economy. By Raymond Firth. (London: Kegan Paul, 1946. Pp. xii + 354. 25*s*.)

An intensive concrete study of any small part of a " Western " economy, intended to reveal the complete working of that part, is beset with difficulties, owing to the complexity of interconnections with what is outside the part studied, while if a large part is selected for study, intensive observation is ruled out by the sheer magnitude of the task. Professor Firth has achieved what is impossible for economists who concern themselves only with " Western " patterns, by making an intensive study of the main features of a relatively primitive economy, enabling us to follow in concrete detail how the whole system works.

Professor Firth devotes most of his attention to a small area of the east coast of the Malay Peninsula, and by detailed observation, which goes beyond mere sampling, brings to light precisely how this economy functions—an economy based on fishing for the main part of its subsistence and the marketing of the surplus beyond the area. In this we find no wage labour, no large-scale concentrations of capital, no monopoly questions, no State interference in the interest of communal planning or of the redistribution of incomes, but the characteristically " Western " institutions of private enterprise and private ownership are to be seen working in a pure form. Every man is an entrepreneur, and he may also be a capitalist—that is, he may own a boat or net (or section of a net). He receives a share of the value of a total catch as supplier of labour (specialised labour obtaining a larger amount than unspecialised labour) and another share as supplier of capital. While the value of the product is determined competitively, the share-out is conventional. Nevertheless, there would seem to be sufficient elasticity to give some approximation in the long run to distribution according to marginal productivity.

We find, for example, that a net obtains a larger share than does a boat of the same value, in order to allow for the longer life of the latter. Even so, it is a matter of some surprise to a "Westerner" that, while there exist no conventions about fair prices to hinder the perfect competitive adjustment in the fish market, yet no mechanism appears to exist for ensuring the nicety of adjustment of distribution to marginal productivity that we like to believe is characteristic of "Western" economies.

One is tempted to ask how rapidly these conventions as to share-out undergo modification—whether when capital was scarcer its share was different? This is an easy question to ask, but any one who is aware of the difficulties of this kind of field work should not be surprised that Professor Firth gives no answer. Furthermore, if the share of capital is not necessarily its marginal product, it need not surprise us to find that the rate of interest on money loans differs considerably from the return to real capital. Professor Firth has brought to light a number of interesting credit arrangements which do, in fact, show a remarkably high rate of interest—a rate that appears to be merely conventional rather than the result of equilibration in a market. It would seem that something that resembles an equilibrium price can appear that is neither determined by the degree of competition nor fixed by authority, though in general the competitive method of equilibration seems to prevail.

Of special interest to economists is the field technique of an anthropologist engaged in a purely economic investigation of an intensive kind. Inventories and samples play their part in Professor Firth's study—we find, for example, complete lists of boats and nets, classified in detail, samples of household budgets, distribution of incomes, and so forth. But we also find a meticulous following-up, in concrete detail, of the fate of particular boats as regards variation of crew, day-to-day volume and price of catch, and so on; or of the complete process of price formation on particular days as the boats come home and the middlemen haggle over price with the crews or their representatives. Professor Firth does not, however, get lost in this mass of inherently uninteresting detail—he is, throughout, economist and sociologist, and a living picture emerges of the working of one kind of free capitalist unplanned entrepreneur economy.

W. E. ARMSTRONG

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Southampton.

John Hilton. By EDNA NIXON. (George Allen and Unwin, 1946. Pp. 344. 15*s.*)

MRS. NIXON'S life of John Hilton succeeds in a remarkable degree in bringing to life that odd and enigmatic character. It is an extraordinary story, however well we know it—the boy born in poverty in Bolton, leaving school despite great promise at fourteen and a half, millwright, inventor, works manager at twenty-three; then sickness, a period of recovery in St. Petersburg, and a new life to begin from the start at twenty-eight; his first apprenticeship to a literary career through free-lance journalism, to public speaking through lecturing on Brighton beach for the Free Trade Union, his association with the Norman Angell movement and with the Garton Foundation, and his progress through this to secretaryship of the Committee on Trusts and Combines, to the post of Director of Statistics and Intelligence in the Ministry of Labour, and ultimately the Professorship of Industrial Relations at Cambridge.

All this Mrs. Nixon tells with great vividness, as also his attraction to broadcasting, his growing interest in the new medium, his many successes and his few failures over the air, the great range of new contacts and new activities that first broadcasting and then journalism brought to him. For before his death, John Hilton had become in most strange fashion the personal friend and confidant of millions. He possessed in a unique degree the power of conveying from an unseen speaker to an unseen audience a sense of intimacy and passionate sincerity. He had a fire in his belly, and none could for a moment doubt it.

But there are points at which Mrs. Nixon is almost too loyal. To many the enigma of John Hilton is that one who achieved such greatness as a broadcaster could have been, to the extent that he undoubtedly was, a failure as a civil servant and as a professor. For he was a far greater man than many who have succeeded far more notably in one or both of these professions. It is not, I fear, enough to suggest, as Mrs. Nixon does, that his lack of success was due to the deficiencies of his civil service colleagues or superiors, or to the absorption of his academic contemporaries in trivialities and abstractions. As a broadcaster Hilton triumphed over difficulties at least as great. Would it not be truer to say that neither of these professions was Hilton's real *métier*? A civil servant, more particularly if he must deal with statistics, must be a pertinacious slogger, an organiser and a member of a team; Hilton was an individualist who worked

by flashes of almost feminine intuition and sensitivity. An academic must possess the power of seeing the wood through the trees, of generalising the infinite continuity and complexity of the real world into categories and principles; Hilton was far too conscious of the varieties, he thought in individuals and not in categories; the simplifications needed for generalisation seemed to him an inhuman disregard of the true realities. It was a grave loss to Cambridge as well as to Hilton that Cambridge never really absorbed him as a person, for Cambridge beyond question needed the counterpoise to the over-academic which Hilton might have provided. Yet the Cambridge into which he came was not devoted to trivialities. He arrived when Keynes was re-writing economics; the intellectual counter-attractions have left an enduring and practical mark upon the world. In this university world Hilton might have exercised a great influence, but somehow he lost interest. His colleagues saw far too little of him for their good and for his. To his lectures he seemed to devote only a fraction of the care and labour that he put into his broadcasts. As a broadcaster he was master of the art of producing himself, his histrionic gifts greatly contributing, and his broadcast on this has become a classic; as a lecturer he troubled little if at all with presentation or with systematic arrangement—the best undergraduates could supply what was missing and benefited greatly, the weaker were frankly lost. To all this, as Mrs. Nixon makes clear, the deplorable failure of Cambridge to take this proud and sensitive man into the family life of a college greatly contributed.

But it is neither as civil servant nor professor that Hilton would wish to be remembered. It was as champion of the poor, defender of the oppressed, and friend of the unbefriended that he will remain in our memories. And Mrs. Nixon's book, even if it is not a wholly dispassionate appraisal of his weaknesses as well as his greatness, will help to keep those memories fresh.

AUSTIN ROBINSON

Sidney Sussex College,
Cambridge.

NOTES AND MEMORANDA

NOTE ON "THE INDUSTRIALISATION OF BACKWARD AREAS".

1. THE problem of the industrialisation of backward areas, both in its general aspects and in its application to specific regions, has lately been the subject of various research studies; though most students have tended to neglect the issue of the inter-connection between a possible areal development and the wider trends of global trade. This neglect is the more unfortunate as the lack of capital which has inhibited the industrial progress in many parts of the world is itself partly due to the uneasiness felt in the more advanced countries with regard to this special issue: the financial world might be more easily induced to assist in the development of "backward" areas if the long-term effect of their action could be shown to be entirely beneficial to the smooth working of the international trade mechanism. As it is, the trade of such areas as India, China or S.E. Europe still largely consists of the importation of manufactured goods, in exchange for food, raw materials and semi-manufactured produce; and the large-scale industrialisation of these areas, without definite safeguards, would tend further to disrupt this trade, and thus to destroy the remnants of that international system of national specialisation which was the basis of international commerce in the nineteenth century.

2. The publication of a new monograph on the subject of the backward areas under the auspices of the Oxford University Institute of Statistics[1] provides a welcome opportunity to sketch some of the international implications of any industrial development schemes, if only by a consideration of some shortcomings in the analysis put forward by the Institute. Most of this analysis consists of a quantitative estimate, based on pre-war statistical data, of the cost involved in and the benefit to be derived from an attempt to create a new modern industry in Eastern and South-Eastern Europe, capable of absorbing within one generation the whole of the agricultural surplus population of this area. The authors' "Model" (referred to in the following

[1] Institute of Statistics, Monograph No. 2, *The Industrialisation of Backward Areas*.

as the "Oxford" scheme) provides for the absorption into industry, at least during the first five years of the development, of 500,000 workpeople per annum; including 270,700 into the manufacturing industries, 200,000 into building and construction, and 29,300 into mining and electric power production; and the authors reckon that an additional 175,000 workpeople will be absorbed each year into "services". The figure for mining and electricity generation is put comparatively low, in view of the limited mineral and hydraulic resources of the area; while the man-power needs of the services and of building and construction are determined, as a secondary factor, by the requirements of the new manufacturing industries.[1] It is the position of the manufacturing industries that chiefly requires attention.

3. The authors of the "Oxford" scheme rightly envisage the creation of a new demand for manufactured goods within the new industrial sector which during the initial development period, should be greatly in excess of the supply of goods produced in the sector itself. However, it can easily be shown that even according to the assumptions of the "Oxford" scheme, this demand will grow smaller after the end of the industrialisation boom while the productive capacity of each new factory will remain essentially constant: the authors estimate that the aggregate output of the new manufacturing industries during the first five development years will be at a value of £2,062·5 mill. against a self-creating demand for manufactured goods of about £2,350·8 mill.; but this latter figure includes a non-recurrent demand "on capital account" (*e.g.*, for the construction of new industries) to the extent of £553·05 mill.,[2] while the demand on "current account" of £1,797·75 mill.[2] (generated by the requirements of wage, salary and profit earners and by the permanent replacement needs of plants, etc.) is appreciably smaller than the expected industrial output. It may be possible to a certain extent, to narrow the gap between supply and demand, even after the end of the industrialisation drive, by such measures as a determined social policy which might raise the requirements for consumers' goods; but on the whole, this calculation seems to support my proposition that in the long run, the new industry will produce a considerable surplus of manufactured goods which

[1] It may be noted that the building requirements are particularly large in the initial industrialisation period; and it would therefore appear that any large-scale development scheme of this type involves the problem of how to re-employ the building workers in later years.

[2] Figures adjusted to allow for replacement in respect of plant and machinery as part of the demand on "capital account."

will have to be marketed either abroad, or in the agricultural sector of the development area, or in that part of the industrial sector of this area which was already in existence before the inauguration of the new industrialisation policy. The emergence of this surplus produce is postponed, in the " Oxford " scheme, by the assumption that the industrialisation drive will be extended far beyond the first Five-Year period; but the price eventually to be paid for such postponement would merely be to increase the volume of surplus produce.

4. There is nothing frightening in this prospect of an " export " surplus, provided that it consists of goods which can find a ready market; and there will, indeed, often be a necessity of a determined export drive in order to refund development loans. However, it seems imperative in these circumstances that any industrial planners should have this prospect clearly in mind, and that special stress should be given to the development of such industries whose eventual excess produce can be expected to be marketable outside the new industrial sector. The " Oxford " scheme provides for an allocation of labour and capital as to individual manufacturing industries roughly in proportion to the *total* demands likely to be generated in these respective industries; and as a result of such a policy, the surplus produce after the end of the active industrialisation period would probably consist of all types of manufactured products including, in particular, both consumers' and capital goods. However, the demand for consumers' goods is in general more elastic than the demand for capital goods; while on the other hand, the old-established industrial countries have largely specialised in the production of capital goods and it is neither easy nor desirable for the capital goods industries of the " new " countries to try and compete with them in the available markets. Generally speaking, it would therefore appear desirable that any large-scale industrialisation measures in backward areas should provide only for a limited development of capital goods industries, so that all their produce can be permanently absorbed within the new industrial sectors; and also that no additional difficulties should be created for the export sectors of the capital goods industries in old-established industrial countries.

5. There is in practice no clear dividing-line between consumers' goods and capital goods, and still less between the industries specialising in their production; but it may be sufficient for our illustrative purposes to define these two groups of manufacturing industries as follows :—

Consumers' goods industries: Food, drink, tobacco; clothing and bedding; textiles; leather, fur, rubber; paper, printing and stationery; furniture and woodwork; pottery, glass, miscellaneous.

Capital goods industries: Building materials; metal; engineering; electrical products; chemical, gas, coke and petrol.

The main data in the "Oxford" scheme for these two industrial groups concerning labour distribution, expected gross output and expected demand on current account, are as follows :—

(1)	Distribution of additional personnel (in thousands). (2)	Gross output (£ mill.). (3)	Demand from current account (£ mill.). (4)	Permanent demand deficit (£ mill.). (5)	(3) as per cent. of (4). (6)
Consumers' goods industries .	745·0	1,147·5	951·0	196 5	121
Capital goods industries . .	608·5	915·0	846·75	68·25	108
Total .	1,353·5	2,062·5	1,797·75	264·75	115

The rate of over-production in this scheme (as shown in col. 6) is appreciably lower in the capital goods industries than in the consumers' goods industries, and this fact, though it is due to an "arithmetic incidence" rather than to actual design, has the welcome effect of reducing the permanent demand deficit in the capital goods industries to the low figure of £68·25 mill., which represents an almost insignificant proportion of the total new industrial output. However, even under these favourable conditions, the figure for the permanent demand deficit in the capital goods industries represents nearly 26% of the total permanent deficit in all industries (£264·75 mill.), the equivalent of which has to be marketed outside the sector. As the excess capital goods must be considered unmarketable outside the sector on our present showing, the inclusion of such a high proportion of them in the total excess product may easily endanger the whole plan, and it seems imperative to adjust the scheme accordingly. The following alternative scheme consciously avoids any permanent surplus of capital goods while otherwise accepting all the main statistical assumptions of the "Oxford" scheme :—

(1)	Distribution of additional personnel (in thousands). (2)	Gross output (£ mill.). (3)	Demand from current account (£ mill.). (4)	Permanent demand deficit (£ mill.). (5)	(3) as per cent. of (4). (6)
Consumers' goods industries .	790·5	1,217·5	951·0	266·5	128
Capital goods industries . .	563·0	846·75	846·75	—	100
Total .	1,353·5	2,064·25	1,797·75	266·5	115

6. The statements contained in the two preceding paragraphs are subject to considerable qualifications when applied to specific areas. In particular, it seems appropriate to consider any industrial development schemes in connection with simultaneous agricultural developments, since the agricultural sectors of the backward areas are usually capable of increasing their own output by absorbing large quantities of industrial products of both the capital goods and consumers' goods categories. Furthermore, the conditions of comparative costs, as determined by the availability of cheap labour, raw materials, transport, etc., would obviously provide some guidance for the development of individual industries in such areas. It may thus be possible first to "shift" some of the "exportable" surplus from the industrial to the agricultural plane, and secondly, to reduce further the quantities of non-marketable industrial surplus by concentrating on those lines of production for which the areas under consideration appear particularly suitable, from geographical, economic and historical reasons.

7. It would not serve a useful purpose to elaborate on this subject, or to work out further hypothetical development schemes without a detailed reference to the actual conditions in the development area under review; but the present remarks may demonstrate the possibility, though only by conscious action, of avoiding further disturbances of the international network of trade as a result of the industrialisation of backward countries. Indeed, if such development schemes are worked out with a view to their global implications, they may prove to be an instrument for the re-establishment on quite a new plane of an international division of labour: not, as in the past, between industrial and agricultural nations, but between countries containing different types of both industry and agriculture, and specialising each in its appropriate lines of production in the different economic

spheres. The proposition is widely accepted that there is no moral or economic justification for permanently retarding the industrial progress of the many millions of people now inhabiting the backward areas of the world; but neither is it compatible with human progress to develop industries in all these countries in such a way that the remnants of the nineteenth-century division of labour are destroyed without an attempt to re-establish an improved system of an international division of labour. International economic planning, properly understood, may well indicate a way out of this dilemma.

B. A. RAHMER

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THE BRITISH DEMAND FOR IMPORTS: A COMMENT

IN the ECONOMIC JOURNAL, June 1946, Mr. T. C. Chang stated that "the value of the British demand for imports under full employment and 1938 conditions cannot be less than £1,300 mn" (p. 206). Mr. Chang did not state the price level assumed for the figure quoted, but an inspection of his Table II would suggest that he had in mind a home price level 20% above the actual level and an import price level 41·5% above it. His figures imply imports of £950 mn. at actual 1938 import prices, or £1,120 mn. allowing for a deterioration in the terms of trade but at stable home prices (*i.e.*, in wage-units).

Lord Beveridge in *Full Employment in a Free Society* assumed 3% unemployment, and out of the £500 mn. increment in the national income at stable prices £75 mn. was expected to be spent on imports. Mr. Chang assumes 5% unemployment, which would imply an increment of £400 mn. in the national income. Out of this, £90 mn. would be spent on imports at stable prices, or £260 mn. allowing for the deterioration in the terms of trade. The implied crude marginal propensity to import is 65%, clearly improbable, and considerably above Mr. Chang's own 30% for the probable maximum.

In the first place, a relatively small point, Mr. Chang gets a higher volume of imports under full employment than the Beveridge figure (which assumed constant terms of trade) because he seems to put his hypothetical employment at 13% above the actual level (p. 198). Considering that 13% of insured workers were unemployed in 1938, and taking 5% as the irreducible minimum, this figure seems too high.

Secondly—and this is the more important objection—a deterioration of 18% in the terms of trade as a consequence of full employment looks, on the face of it, excessive. According to official figures, in 1928 or 1929 our terms of trade were 20% worse than in 1933 at the bottom of the slump.

Certain technical objections can be raised against Mr. Chang's analysis on account of his brave effort to treat the tariff of 1932 as a price change. Had he regarded the tariff as splitting the period into two shorter ones, the results might perhaps have been somewhat different. One finds when comparing the period 1924–30 with 1932–8 a fall in the average propensity to import, in the marginal propensity, and also in the income elasticity. (My estimates for imports and incomes in real terms are, for average propensity 27% and 19%, for marginal propensity 24% and 15%, and income elasticity 0·9 and 0·8. The basic figures used were different from Mr. Chang's. Using multiple correlation, the time factor was negligible.) Though the periods are shorter, the growth in the intensity of the relationship more than compensates for that.

But the main objection is that it is difficult to use historic statistics, with little independent variation, to evaluate quantities under the conjectural state of full employment. The terms of trade will no doubt deteriorate, but the quantity of the change depends on whether full employment in Britain is accompanied by world full employment or not. The deterioration in the terms of trade will be greater in the former case, though even so Mr. Chang's figure looks excessive. In any case, it is not obvious why the terms of trade should depend on the level of home prices under full employment. According to Mr. Chang's Table II, the terms of trade would deteriorate by 9% with home prices 10% above the actual level, and by as much as 29% with home prices 35% above the actual level. The reason for some of these strange results is, of course, that in the trade cycle all related quantities move together and it is practically impossible to allocate each variation to its cause. It would have been wiser to examine the direct connection of employment and the terms of trade, rather than the relationship of the terms of trade and home prices, both determined by the level of employment.

If there had been full employment in Britain, but not elsewhere, the deterioration in the terms of trade could have been of the order of magnitude of 5% rather than 20%. But even with world full employment the import position of Britain would have been better than indicated by statistics relating to the past. The

reason is that there is a vast difference between the accompaniments of full employment as a phase in the trade cycle (which is implied by an extrapolation of our statistics) or a "high and *stable* level of employment" as a result of Government policy. Both producer and consumer consider what is the (Marshallian) normal price of the commodity. Under full employment as a phase in the trade cycle, the boom price is not the normal price; under a stable full employment, it is. Hence, in the latter case, the production of certain raw materials abroad would expand and the terms of trade would not deteriorate as much as expected. And a permanent deterioration in the terms of trade would cause a greater switch-over from imports to home production than a purely temporary one, with a consequent reduction in the volume of imports below the expected level.

Though Mr. Chang does not consider the effect of full employment on the balance of payments, one would like to avoid leaving the impression that the effect is the same as on imports. In fact, all items of the balance of payments are interrelated. The effect of employment on imports of services like tourist expenditure will be in the same direction as on imports of merchanise, but the effect on all other items will be in the opposite direction. The figures given by Mr. Chang are gross figures in the sense that there are large offsets against them. As imports are valued c.i.f., an allowance should be made for the higher earnings of British shipping and insurance as a result of more imports. The profits of British companies abroad (*e.g.* tea or rubber) are also sensitive to imports, and therefore there should be a further offset in the increase of income from foreign investments. But exports should also expand when imports expand, due to the income (and multiplier) effect in foreign countries.

Now, under conditions of world prosperity the value of British imports increases more than under full employment at home only. But it is under the former conditions that the value of British exports also expands greatly, including the value of shipping services the price of which is rather sensitive. Looking at the statistics of the inter-war period, the picture obtained is, if anything, the opposite to that expected: the balance of payments looks better in good years than in bad years.

A further caution should be added as regards future problems. The value of imports in the near future cannot be estimated on the basis of extrapolating pre-war series. During seven years of comparative isolation certain changes have taken place; British industrial capacity in many lines expanded as a consequence of

the war, and the industrial capacity of some of Britain's supplying countries was destroyed. Thus it can be expected that the British demand for imports, given the level of employment and the institutional factors, will be less than before the war. To sum up, it is unlikely that full employment should cause exceptional balance of payments problems. Certain self-adjusting factors, which Lord Keynes emphasised in his last article, are bound to be in operation. But in any case, the magnitude of the deficit should be of the order of 10% of the actual value of imports, rather than 25% as would be suggested by crude extrapolation. That Britain has balance of payments problems is not denied, but these problems are due to long-term factors and not to the forecasted level of employment.

T. BARNA

London.

THE BRITISH DEMAND FOR IMPORTS : A REPLY

THE technical objection which Dr. Barna has raised against my analysis is the treatment of the tariff of 1932 as a price change. From the point of view of the home consumer the cost of buying imported goods is not the price quoted by foreign sellers, but the quoted price c.i.f. *plus* import duties. Any change in tariff rate is therefore equivalent to an increase or decrease of import price. If a tariff is not a price change, what else is it ?

I do not see why the whole period should be split into two shorter ones. It seems that Dr. Barna has done so for the sake of getting higher correlation coefficients. As a matter of fact, the rather low value of my result is due to (1) ignoring other " useful " factors—*e.g.*, the volume of British exports—and (2) the inclusion of the years, 1926 and 1931, during which British imports were abnormally affected by some random changes. If we take all these into consideration, the demand equation for British imports will be :

$$\begin{aligned}\log\text{ (volume of imports)} &= 1{\cdot}1005 \log\text{ (home employment)}\\ &\quad - 0{\cdot}2815 \log\text{ (relative import price)}\\ &\quad + 0{\cdot}2511 \log\text{ (volume of British exports)},\end{aligned}$$

with multiple correlation coefficient equal to 0·9434. The employment-elasticity, +1·1005, is higher than Dr. Barna's estimate. Consequently, the value of full-employment imports will still be higher than his. As all estimates are bound to be

little more than guesses, it is therefore difficult to say definitely which one is most reasonable. But a better result could be achieved, if we base our estimation on the elasticities of general groups of imports—*i.e.*, Food, Raw Materials and Manufactured Goods.

The figures in Column (2) of Table II are absolute import price *including* tariff, as has been pointed out in footnote 3 on page 198 of my article. The "terms of trade" should be the ratio of absolute import price *excluding* tariff to the cost-of-living index. The tariff rate increased the import price by about 12% in 1938. Therefore the "terms of trade" would deteriorate not by 9%, but by 2·8% with home price 10% above the actual level; and so forth. Moreover, I did not attempt to estimate the level of absolute import price which would have been associated with British full employment in 1938. Table II only shows the theoretical values of imports at full employment under the assumption of different price levels. To get the figures in Column (2) by using regression equation is a matter of convenience. Would Dr. Barna object if I had arbitrarily set the figures equal to those by calculation?

I agree with Dr. Barna that a trade-cycle boom is different from a "high and stable level of employment." But his attack has been pointed in a wrong direction. I did not try to forecast the future; I sought only to show what a rise to full employment in the U.K. in 1938 would have entailed. Moreover, to say that it is dangerous to extrapolate pre-war series is not to say it is useless. It seems to me that Dr. Barna prefers complete darkness even to fitful gleams of moonlight.

TSE-CHUN CHANG

Cambridge.

CURRENT TOPICS

WE announced in the June issue of the ECONOMIC JOURNAL that it would not in future be possible for the London and Cambridge Economic Service Bulletins to be distributed free with the ECONOMIC JOURNAL. The Bulletin that is circulated with this issue is the last that will be distributed free.

In the June issue Fellows were invited to subscribe for the Service on special terms, which would vary in accordance with the total number of subscribers which might be obtained. In view of the response hitherto, it has been decided that the rate for the

first year will be 15*s*. per annum. Any Fellows who have not yet informed the Secretary of the London and Cambridge Economic Service, at the London School of Economics, Houghton Street, Aldwych, London, W.C.2, of their desire to subscribe, are urged to do so with as little delay as possible. We include on a slip in the current issue of the Bulletin a note indicating the important proposed changes that will be incorporated from the beginning of next year.

THE Nuffield Foundation has recently made a grant for a period of five years to the Department of Applied Economics in the University of Cambridge to be used for the appointment of a number of Research Fellows in the Department. The first two Fellowships have now been filled and the following have been appointed :—

Dr. R. C. Geary, of the Statistics Branch of the Department of Industry and Commerce in the Government of Eire and joint Editor of *Biometrika*, who has been granted leave of absence by his Government during the present academic year to research into *Problems of the Analysis of Time Series.*

Mr. F. Sewell Bray, partner in Messrs Tansley, Witt and Co., Chartered Accountants, and joint author of *Design of Accounts*, who will be engaged in research into *Problems of Social Accounting.*

In addition the Department has made the following appointments to its research staff :—

Mr. G. H. Orcutt, of the Department of Economics and Social Science of the Massachusetts Institute of Technology, who will be researching on *Dynamic Models for Total Economic Activity.*

Mr. G. Stuvel, of the Central Planning Bureau of the Netherlands Government, who is engaged on Research into *The Statistical Analysis of Demand and Consumers' Behaviour.*

Mr. A. R. Prest, of Cambridge University, who is working on *The National Expenditure of the United Kingdom before 1920.*

The Secretary of the National Institute of Economic and Social Research has informed us that the following awards of Senior Research Fellowships have been made for the coming academic year :—

Mr. E. J. M. Buckatzsch, Lecturer at Balliol College, Oxford, has been awarded a part-time Fellowship for one year to work in Oxford on an enquiry into *Factors affecting income per head in towns and areas of England and Wales 1929–1939.*

Miss Kate Liepmann, Research Associate of the Reconstruction Research Group, University of Bristol, has been awarded a full-time Fellowship for one year to work at the University of Bristol to undertake an enquiry into *The extent and composition of labour markets in selected areas in the South-west.*

Mr. H. G. Schenk, of Exeter College, Oxford, has been awarded an extension of his part-time Fellowship for one year to complete at Oxford his enquiry into *European Romanticism and the Social Revolution 1790–1830.*

These Fellowships are for the purpose of advanced research, primarily in the field of economics and social economics, but not excluding other social subjects, and are awarded to suitable candidates who have been recommended by Universities and University Institutions in the United Kingdom.

The Colonial Office has drawn our attention to the institution of Colonial Research Fellowships to enable suitable research workers to pursue work in the British Colonial Empire. The Fellowships carry a remuneration at the rate of £400 per annum, which may be increased to a sum not exceeding £750 per annum if the Fellow is married or in any other appropriate circumstances. Travelling and other expenses will also be provided. The Fellowships will normally be reserved for University graduates in the Natural or Social Sciences, under 35 years of age, from any part of the British Commonwealth and Empire.

Further information may be obtained from The Secretary, Colonial Research Committee, Palace Chambers, Bridge Street, London, S.W.1.

THE Royal Economic Society is anxious to obtain returned copies of the last issue of the ECONOMIC JOURNAL—that for September 1946—and the London Cambridge Economic Service Memorandum No. 107 which was distributed with it. Any member who may care to return copies in good condition to the Assistant Secretary, Mr. S. J. Buttress, 6 Humberstone Road, Cambridge, will be paid *3s. 6d.* for the JOURNAL and *1s.* for the Memorandum.

WE have been informed of the proposed publication of a new journal to be entitled *Kyklos, an International Review of the Social Sciences*, with the following Editorial Board : A. Aftalion (Paris), Luigi Einaudi (Rome), Walter Eucken (Freiburg i. Br.), Alvin H. Hansen (Harvard), Eli F. Heckscher (Stockholm), J. R. Hicks (Oxford), Charles Rist (Paris), William E. Rappard (Geneva), Joan Robinson (Cambridge), Wilhelm Röpke (Geneva), Edgar Salin (Basel), J. A. Schumpeter (Harvard), Alfred Weber (Heidel berg).

It will publish, in the main, contributions on all the various aspects of the theory of economics, including the theory of economic policy and finance. The review will also be devoted to economic and social history, the history of economic theory, as well as to all problems appertaining to sociology. It aims to create something that has not existed before in this form, that is, an international forum for scientific discussion between the scholars and peoples of many different tongues and nationalities.

Articles will be published in English, French and German. Any communications should be addressed to Dr. H. G. Bieri, 6 Place Bubenberg, Berne, Switzerland.

THE Editors of the ECONOMIC JOURNAL have been informed of more than one attempt that is being made at the present moment to compile a complete bibliography of Lord Keynes' writings. They are anxious to secure the help of editors of journals and others who can inform them of contributions by Lord Keynes to newspapers, weeklies, Festschriften, etc., and to journals other than the ECONOMIC JOURNAL and the *Quarterly Journal of Economics*.

RECENT PERIODICALS AND NEW BOOKS

Journal of the Royal Statistical Society.

VOL. CIX. Part I, 1946. *Some Aspects of the Use of Statistics in Government, with special reference to the Human Budget: the Inaugural Address of the President,* THE RT. HON. LORD WOOLTON. *A Review of Recent Statistical Developments in Sampling and Sampling Surveys:* F. YATES. *Cumulative Sampling: a speculation as to what happens in copying manuscripts:* G. UDNY YULE. *Elementary Statistics of Majority Voting:* L. S. PENROSE. *Regulations of the Research and Industrial Applications Sections.*

Economica.

AUGUST 1946. *Full Employment and International Trade:* F. BENHAM. *The Marginal Cost Controversy:* R. H. COASE. *A Further Note on the British Balance of Payments:* C. F. CARTER and T. C. CHANG. *Welfare Economics and Economic Policy:* A. RADOMYSLER.

The Political Quarterly.

OCTOBER–DECEMBER 1946. *Peace with Russia:* M. EDELMAN. *Political Catholicism and Catholic Politics:* ILSA BAREA. *Spanish Politics and Parties:* J. O. MCLACHLAN. *The National Coal Board:* G. D. H. COLE. *How Mussolini Fell:* P. SAPORITI. *Legislative Draftsmanship:* W. A. ROBSON. *New Horizons in Educational Broadcasting:* R. S. LAMBERT.

The Economic History Review.

VOL. XV, NOS. 1 and 2. 1945. *Problems of the British Coal Industry between the Wars:* W. H. B. COURT. *The Bill of Exchange and Private Banks in Lancashire, 1790–1830:* T. S. ASHTON. *The Destruction of Woodland in the Eastern Counties under William the Conqueror:* R. LENNARD. *Vitriol in the Industrial Revolution:* A. CLOW and NAN L. CLOW. *British Economic Activity in the German Colonies, 1844–1914:* W. O. HENDERSON. *The Bank of England:* W. T. C. KING. *The American Negro Problem:* D. W. BROGAN. *English Agriculture from Cobbett to Caird (1830–80):* G. E. FUSSELL.

VOL. XVI, NO. 1. 1946. *British Food Supplies, 1914–1939:* R. J. HAMMOND. *Samson Gideon and the Reduction of Interest, 1749–50:* L. S. SUTHERLAND. *Alien Hosting in Southampton in the Fifteenth Century:* A. A. RUDDOCK. *Utility and Radicalism, 1825–1837:* F. E. HYDE. *The Denomination and Character of Shares, 1855–1885:* J. B. JEFFERYS. *Sir John Clapham:* M. M. POSTAN. *Edwin Francis Gay:* N. S. B. GRAS. *Early Banking:* M. M. POSTAN. *The History of Empire:* J. W. DAVIDSON.

The Review of Economic Studies.

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No. 256. *Europe and the Ruhr.*
No. 257. *U.S. Slump—U.K. Defence.*

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SEPTEMBER 1946. *Public Finance of Some European Countries.*

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APRIL–JUNE 1946. *Remarques sur la théorie générale de Lord Keynes* : P. T. BAUER. *Offre et demande et débit* : H. GUITTON. *Théorie des encaisses et théorie de l'intérêt* : R. FLORIN. *La balance des comptes et l'équilibre économique international* : J. SRIBER. *Le livre de Colin Clark "Les Conditions du progrès économique"* : J. FOURASTIE.

Population.

JANUARY–MARCH 1946. *Pression démographique et ressources agricoles ; application aux pays d'Europe* : P. VINCENT. *Localisation industrielle et peuplement* : L. CHEVALIER. *Progrès technique, destructions de guerre et optimum de population* : G. LÉTINIER. *De la mesure de la mortalité infantile* : J. BOURGEOIS. *Vieillissement de la population et prolongation de la vie active* : J. DARIC. *Sociologie et démographie* : J. STOETZEL. *Évaluation des besoins de l'immigration française* : A. SAUVY. *Facteurs comparés d'assimilation chez des Russes et des Arméniens* : R. GESSAIN et MADELEINE DORÉ.

APRIL–JUNE 1946. *Faits et problèmes du jour* : A. SAUVY. *À propos du recensement du 10 mars 1946* : V. FONSAGRIVE. *Vieillissement de la population, retraites et immigration* : P. VINCENT. *Pour une histoire de la population* : L. CHEVALIER. *Plein emploi et pleine population* : A. SAUVY. *Sondages et démographie* : A. GIRARD. *Aperçu sur les législations étrangères en matière de démographie* : J. DOUBLET. *Le facteur "qualité" en démographie* : J. SUTTER. *Éléments d'un bilan national de l'alcoolisme* : G. LÉTINIER.

De Economist.

SEPTEMBER 1946. *De grenzen der leiding* : J. F. TEN DOESSCHATE. A consideration of what is meant by "business-economy." The writer refers to views that the purpose of business is to secure sufficient net profits, and to Dr. Mey's observation that in a collectivist society there can be no "business-economy." This standpoint, that "business-

economy " is concerned with how an undertaking can attain the greatest possible gains does not fit these times which demands a synthesis between individual pursuit of gain and social welfare. On this view there would be a conflict between business-economy and social economy. Greatest individual gain, moreover, cannot now he held to imply the greatest social advantage. Businesses must cooperate together at their social task, as members of a greater whole. Expenditure and profit must not be viewed exclusively from the standpoint of the owner of capital, but as social-economic categories. It does not follow from this that industrial life must be nationalised or socialised on a large scale. Authority should create organs whose object would be to fit private initiative into the pursuit of the community's welfare. The controlled or managed economy is not to be condemned or approved *a priori*. It is a question of costs and returns; a question, not of principle, but of expediency. Control should remain below the point where the advantages for the community are exceeded by the costs involved. Among the positive advantages are a more just distribution of wealth, and the possible avoidance of waste, in excessive competition and overcapacity. Among the losses involved are the withdrawal of labour and of capital from the productive processes. Nor is there any corresponding diminution in the amount of labour in the various businesses; on the contrary, government control involves an increase of staff. There is also a decline in the spirit of enterprise and in the urge to keep costs down. There is also the question of the quality and the competence of control: a little management of high quality is better than a large amount of management of inferior quality. *Het prijzenstelsel in Rusland*: A. C. RAZOUX SCHULTZ. After a brief survey of the organisation of economic life in Russia, the writer gives a detailed account of the price system, and of various problems connected with the determination of prices. The final conclusion is that the Russian system has little to offer us in the field of the price-problem. In the first place, the Russians have not sufficiently thought out, theoretically, the price-problem. Further the influence of Marxism has led to certain definite mistakes, in particular the abandonment of capital-interest as a guide to investment. Above all, the Soviet economy has in the main been a scarcity-economy, a ' building-up ' economy: it is impossible to avoid the impression that in the Russian economy, a condition of need has always prevailed. The strong measure of centralisation supports the same conclusion. *De economische data en de statistiek*: J. H. VAN ZANTEN. The younger economists complain of a lack of validity in economic conclusions, due ultimately to the fact that Economics has until recently been based on premises which are in conflict with reality, the assumption of the " homo economicus." According to some, Economics is a theory of acts of choice. Keesing remarks that this brings motives too much into the foreground: economics is rather a theory of the effects of these acts of choice. There has been a change from the older theory based on the " homo economicus " to the demand to-day that we should know what happens. It is not the task of economics to determine the circumstances relating to choice. This is for other sciences: Psychology, so far as concerns quality; Statistics, so far as concerns quantity. The complaint is made that the data which these sciences place at the disposal of economics is not sufficient to make it possible to build up a theory. The remainder of the paper is concerned with the question how far Statistics can provide for this urgent need. Statistics is a " serving," a ministering science, which can only do serviceable work for others, if set before a definite problem. Three things are necessary: (i) determination (by economics) of the problem; (ii) commission to Statistics (and Psychology) with precise description of the problem and the data necessary; (iii) organisation of statistics to provide the necessary data. In conclusion two points are made: (i) Statistics can give no more than a decision on the past; (ii) a question arises whether the difference between the results of the new method and the old (resting on the " homo economicus ") may not be less than is assumed.

Giornale degli Economisti.

MARCH–APRIL 1946. *Le basi storiche della struttura sindacale italiana:* G. DEMARIA. The legislation of the Corporative state consolidated previous tendencies to over-centralization in Italian trade unions. Future policy should follow British and American experience more closely. *A proposito di un suggerimento del Pareto al ministro della produzione in uno stato collettivista:* C. DAMI. Pareto advocated (i) price discrimination in order to bring about optimum social output in the case of industries with increasing or decreasing costs, (ii) in cases where fixing of prices to include overhead costs would lead to less than full utilization of capacity, the levy of a fixed sum per consumer, irrespective of amount bought, to cover overhead costs; consumers then being able to buy as much as they wish at a price covering prime costs only. The first suggestion is approved, but the second criticised on the grounds that such a levy would discourage a certain number of consumers from buying the goods at all, and would press heavily on those with lower incomes. *Obbiezioni economiche alle valutazioni della ricchezza nazionale:* C. GINI. An analysis of the dangers of estimating the national wealth according to market values. Use-values are normally greater than exchange-values, and the difference tends to be larger the richer the country. Countries in which a small number of specialised forms of wealth are concentrated in few hands will tend to have a higher price level than ones in which forms of wealth are large in number. *Nuove ricerche sui bilanci familiari:* P. LUZZATTO-FEGIZ. An investigation carried out by the Institute of Statistics of the University of Trieste for 1939 and 1942. Due to the war the structure of expenditure of the middle-classes has been becoming more like that of the lower income groups, particularly in the large proportion spent on food. *Nuovi aspetti della politica monetaria internazionale:* A. GARINO-CANINA. The reaction from Chartalism and the return to gold as a means of international exchange. *Razionalità della domanda e criteri d'indipendenza dei beni:* E. ZACCAGNINI. A mathematical investigation into (i) a suitable demand function, (ii) the assumptions on which the measurability of utility rests, (iii) criteria for recognising the independence of commodities. *Elasticità della domanda di lavoro in Böhm-Bawerk:* F. VILLANI. Böhm-Bawerk's formula relating the wage-rate, the interest-rate, the period of production and the average annual product of each worker results in unit elasticity of demand for labour for each value of the period of production. The elasticity becomes greater than one for a rise or fall in the period of production, but can never become less than one. Böhm-Bawerk's conception of the structure of production is criticised and a formula found, relating the concepts of Böhm-Bawerk to the general equilibrium theory of Walras, which enables the elasticity of demand for labour to be less than unity.

MAY–JUNE 1946. *Singolarità economiche della Palestina:* R. BACHI. The situation arising from a large inflow, for other than economic reasons, of labour, capital and organising ability of a particular kind into a relatively stagnant economy. *In merito a un'osservazione critica del Pareto:* A. DE TOMA. Ricardo's conclusion that total specialisation and international trade would be advantageous where there is a divergence of comparative costs was criticised by Pareto on the grounds that it depended on the tastes of the countries involved. Pareto's example demonstrating this is found to be inadequate, and a diagrammatic method, showing that the area in which total specialisation and trade would take place may be more restricted than the divergence between the comparative costs, is developed. In the case where tastes are such that *no* exchange based on total specialisation could take place a "precarious" equilibrium could come about with partial specialisation by one country. Protection by the country which is specialising partially might, it is suggested, lead to stability and a greater gain from trade by both countries. *Significato economico delle valutazioni della ricchezza nazionale:* C. GINI. The objections raised in the article in the pre-

ceding number are disposed of on the general ground that once a market comes into being subjective values become subordinate to its objective valuations. An estimate of the national wealth should include an estimate of the value of the people of the country. This may be obtained in respect of productive capacity, but not of level of culture. *Nuove ricerche sui bilanci familiari :* P. Luzzatto-Fegiz. A third investigation carried out by the Institute of Statistics of the University of Trieste for 1943. The rationing system did not produce equal distribution of the more important items of food among all classes; black market food became the main luxury of the higher income groups. *La politica annonaria di Venezia :* L. Dal Pane. A defence of Venetian policy in the eighteenth century in the transition from a purely commercial centre to one of regional trade with its own internal food supply. *Nota sul problema della giusta imposta :* L. V. Berliri. The maxim that "the just tax does not exist" becomes inevitable if consideration of the best way of spreading the sacrifice involved in paying taxes is separated from an allocation of the benefits received from public services. An attempt to do the latter can and should be made on juridical lines. The legal concept of an 'interest' may be helpful. *Questioni di nomi :* A. Loria. *Collettivismo integrale e burocrazia :* G. Demaria. Presenting the recently published 'Economia collettivistica ed economia individualistica a confronto' by Cesare Dami.

Schweizerische Zeitschrift fur Volkswirtschaft und Statistik.

August 1946. *Probleme des Kapitalexportes :* E. Küng. *Spartätigkeit und Kapitalbildung :* E. Kellenberger. *Geldwertänderungen und Prozessabalyse :* H. G. Bieri.

Moneda y Crédito.

June 1946. *A propósito de "La Renta Nacional de España" :* A. Guerreiro. *La industria eléctrica francesa. Su nacionalización :* A. V. Pardo. *El estamento de la nobleza en el despotismo ilustrado español :* M. G. Pelayo. *La Banca española en 1945 :* I. C. Garrigos. *Efectos económicos de un presupuesto equilibrado :* E. de Figueroa.

El Trimestre Económico.

July–September 1946. *Logros positivios, de la reforma agraria mexicana :* R. F. y Fernández. *La administración de los distritos de riego mexicanos :* J. L. Tamayo. *Situación y estructura del Banco Nacional Hipotecario y de Obras Públicas :* A. Zamora. *Las propuestas comerciales anglo-norteamericanas :* J. Márquez. *Unifacación de los impuestos internos argentinos :* R. C. Trevisán. *Discusiones previas al primer tratado de comercio entre México y Estados Unidos : 1822–1838 :* C. B. García. *John Maynard Keynes : 1883–1946.*

October–December 1946. *La inflación norte americana :* A. H. Hansen. *Teoria del mercado adicional de inversiones :* A. L. Iñárritu. *La balanza de pagos y el ingreso nacional :* R. O. Mena. *Problemas creados por la reforma agraria de México :* R. F. y Fernández. *El primer tratado comercial anglomexicano : intereses económicos y políticos :* C. B. García.

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Supplement. September 1946. *The State and the Private Banking System :* E. Browaldh.

L'Égypte Contemporaine.

January–February 1946. *International Monetary Problem (in Arabic) :* M. Saleh el Falaki. *Super National or National Currency. The monetary fund of Bretton Woods :* M. Bye. *Commercial Relations between France and Egypt :* Andre Eman.

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No. 10, 1945. *China on the Road to a New Life*: V. MASLENNIKOV. *The Elections in France*: M. SHAROV. *The Question of Nationalisation of the English Coal Industry*: D. ZORINA. *Liberated Norway*: Y. SEGAL. *The Significance of Foreign Trade for U.S.A.*: V. LAN. *The Economic Situation of Liberated France*: M. MEYMAN. *England's Indebtedness to Egypt*: L. VATOLINA. *The Annual Accounts of American Concerns*: N. VAITSMAN.

No. 11, 1945. *Franco Spain: Stronghold of Fascism in Europe*: O. ARTUROV. *The Coal Problem in Post-war Europe*: V. KARRA. *The End of Japanese Aggression in the Pacific Ocean*: E. PIGULEVSKAIA. *Concentration of Industry in U.S.A. during the Second World War*: S. LEAF. *The Economic Basis of Japanese Aggression*: M. LUKIANOVA. *Consumers' Credit in U.S.A. during the War Years*: P. KAMINSKY. *Tendencies in Canadian Agriculture in War-time*: B. KOGAN. *The Economic Situation of Argentine at the time of the Second World War*: O. KLESMET.

No. 12, 1945. *The Clandestine Diplomacy of International Monopolies*: M. RUBINSTEIN. *Swedish Foreign Policy*: Y. SEGAL. *The Oil Industry in U.S.A. during the Second World War*: M. KOGAN. *Reconversion and the Unemployment Problem in U.S.A.*: V. LAN. *The Defeat of Japan and Events in Indo-China*: V. VASILEVA. *Agrarian Reform in Turkey*: B. DANTZIG.

NOS. 1–2, 1946. *U.S.S.R. in the Forefront of World Democracy*: P. LISSOVSKY. *International Relations in 1945*: I. LEMIN. *Agrarian Reform and Democracy*: A. PETRUSHOV. *The Anglo-American Economic Agreement*: V. SOKOLOV. *The Internal Political Situation in Germany*: D. MELNIKOV. *The Strike Movement in U.S.A.*: S. DRABKINA. *A New Structure: Democratic Albania*: P. MANCHKA. *Events in Indonesia*: V. VASILEVA. *The Activity of the German Concern ROVAK in Spain*: B. ISAKOV. *The Economic Situation in Bulgaria*: B. CHRISTOV. *On the Anglo-American Oil Agreement*: V. L.

Izvestia of the Academy of Sciences of U.S.S.R.: Section of Economics and Law.

No. 3, 1946. *On Political Workers*: ACADEMICIAN I. P. TRAININ. *The Time Factor in the Planning of Capital Investments*: ACADEMICIAN S. G. STRUMILIN. *The London School in Political Economy*: I. G. BLIUMIN. *On Some Aspects of Money Circulation in Ancient Russia*: A. D. GUSAKOV. *The Economic Views of A. N. Radishchev (1749–1802)*: E. V. PRIKAZCHIKOVA.

Planovoe Khoziaistvo (Planned Economy), Gosplan, Moscow.

No. 3, 1946. *The Oil Industry in the Five Year Plan*: N. BAIBAKOV. *The Building Program of the New Five Year Plan*: A. KOROBOV. *On Strengthening the Economy Régime in Building*: V. GROSSMAN. *The System of Short-term Credit in Soviet Economy*: M. USOSKIN. *The Automatisation of Productive Processes in Industry*: V. KOVALENKOV and A. KHRAMOV. *The Supply Situation in Capitalist Countries after the War*: R. LEVINA.

NEW BOOKS.

British.

ANJARIA (J. J.), LAKDAWALA (D. T.) and PANDIT (S. A.). War and the Middle Class. An inquiry into the effects of war-time inflation on middle-class families in Bombay City. Bombay: Padma Publications, Ltd., 1946. 8½″. Pp. 33. Rs. 1.4.

[An analysis of the effects on middle-class families of war-time inflation in Bombay based on an attempt to get returns from 1000 families, in the income range Rs. 50 to Rs. 300 a month. Only 520 forms were filled up, of which 478 were usable. The average increase of income per family was 45% and per head 32% between 1939 and 1944. Expenditure on food had increased by 99% and absorbed 51% as against 37% of income. There is a detailed analysis of the consumption of particular foodstuffs and non-food commodities.]

BEALES (H. L.). The Making of Social Policy. London: Oxford University Press, 1946. 9″. Pp. 25. 2*s.*

[Mr. Beales, in his Hobhouse Memorial Trust Lecture, tries to sum up the new social order in which we live and the ways in which it came into existence. The main features are the beginnings of a system of social wage payments, widening areas of life subjected to the rule of professional standards, the development of a state of social classlessness, the growth of the equality in function and responsibility of women, the beginnings of a policy of full employment, the extension of similar social policies to our dependencies. "Social policy is still a young, a twentieth-century contributor to the totality of our well-being. In its essence it is a policy of freedom through organisation."]

BHATAWDEKAR (M. V.). Our Sterling Balances. Bombay: Popular Book Depot, 1945. 8½″. Pp. 34.

[A new edition of a pamphlet that was noted in the ECONOMIC JOURNAL of December, 1945. The author has added a new preface, in which he argues that Britain should have no insuperable difficulty in liquidating India's sterling balances, say over a period of ten years. His discussion of the British problems scarcely goes deeply enough; the problem must be regarded as a whole, and in its full relation to British losses of foreign assets, and not as the problem of one holder.]

BLACKETT (P. M. S.). The Atom and the Charter. London: Fabian Publications and Victor Gollancz, 1946. 8½″. Pp. 12*s.* 6*d.*

[Prof. Blackett's pamphlet is concerned hardly at all with the atom bomb and almost wholly with the power of veto on the Security Council of U.N.O. He advances the thesis that if U.N.O. is to be a reality it must only vote for sanctions in conditions in which it is able to enforce them: "the Opposition votes, against which a decision to impose sanctions can be taken, must never exceed the number of nations against which sanctions can actually be enforced." He takes as an example that sanctions (by which he means armed or economic pressure which results either in immediate capitulation or very quick defeat) require a 5 to 1 superiority. On this basis, and with a realistic appraisal of the war potentials, sanctions can probably not be made effective against U.S.A. or U.S.S.R. and possibly, but far less certainly, not against the other Great Powers. He would therefore justify the possession of a veto by at least the first two, since otherwise nations might well vote irresponsibly for sanctions in a confidence that they would not in fact be carried into effect. The atomic bomb makes some immediate difference to the strength of the U.S. But Prof. Blackett treats it as different in dimension and not in kind from other bombs, and leaves the impression that it does not greatly change relative war potentials after five or ten years.]

BOSE (A.). Social and Rural Economy of Northern India, Cir. 600 B.C.–A.D. 200. Vol. II. University of Calcutta, 1945. 9½″. Pp. xiii + 507 + xxiv. Rs. 4.8.

[This second volume of a large study was completed under great difficulties since the author was detained as a security prisoner. He has brought together a great deal of evidence from Greek and other travellers, from archæological discoveries, from Sanskrit literature and from all the other known sources. Out of all this he has aimed to build up a complete and integrated picture of industrial organisation, the main products and their quality, trade and trade routes, the markets and prices, currency and banking, the towns, their architecture, lay-out and government, occupations and employment, the crafts, social stratification, slavery. The book thus provides a useful source of information over a very wide field. But the reader who is not himself expert in the sources would have liked a rather fuller and franker discussion by the author

of the value and reliability of much of the evidence. Clearly there is here a whole range of data from almost pure mythology to certain fact; an assessment of it is a very desirable addition to what Dr. Bose has provided.]

BRETT (R. DALLAS). Usury in Britain. London: St. Botolph Publishing Co., 1946. 9". Pp. 144. 4s. 6d.

[The author seeks to show the stranglehold which big finance has obtained on the whole of the British economy. He records the issued capital of the banks, insurance and investment companies, building societies and the like, and shows the interlockings of directorates He would wish to create a British Bank, with Cabinet Ministers as its leading officers, to tidy up and simplify the whole system]

CASSELMAN (P. H.). The Relation between Farm Management Factors, Milk Cost and Operator Labour Earnings. A correlation study analysing the 1937 operations of a sample number of Ontario dairy farms. Ontario: New Era Publications, 1946. 11". Pp. 85. $1.00.

[This is a detailed correlation study analysing the 1937 operations of a number of Ontario dairy-farms. Its purpose was to see how far statistical methods of this kind could be applied to farm management. The author begins with simple frequency distribution tables, and proceeds first to simple correlation coefficients (for example, the correlation of labour earnings and milk cost) and then to eliminate the interaction of the independent variables and to partial correlation coefficients. At the end he seeks to draw conclusions regarding the applications of these techniques to problems of farm management]

CHAUDHURY (S.). Planning for Plenty. Calcutta and London: Longmans, Green & Co., 1945. 7". Pp. 76. 2s. 6d.

[This short essay is a critical examination of planning in general, and of the Bombay Plan in particular. The author emphasises that the problem of planning is not that of thinking of attractive programmes but that of the basic principles which must guide any planning, and the organisation and controls that are involved "The positive conclusion which clearly emerges from [the author's] analysis of both the working of the present economy and the practice commended by current proposals is that we can plan for material improvement only on the basis of Socialism "]

Co-partnership To-day. A survey of profit-sharing and co-partnership schemes in industry. London: Conservative Political Centre, 1946. 8½". Pp. 48. 1s.

[A short survey of co partnership and profit sharing schemes prepared for the Conservative Party Advisory Committee on Policy and Political Education. It is a competent and well written factual study]

DIGBY (MARGARET). To-morrow's Food: a study of the world food situation. London: Fabian Publications and Victor Gollancz, 1946. 8". Pp. 28. 1s.

[Miss Digby's pamphlet summarises the current state of agricultural organisation and technique and attempts to appraise, in terms of a balance-sheet of gains and losses, the effects of the war. The chief losses are the reductions of productive capacity in many countries, more particularly in Central and Eastern Europe, and the decline in cattle population in Western Europe. The gains are in technical knowledge and in organisation both of food production and distribution. Miss Digby suggests that integrated regional schemes for the planning not only of food production but also of its exchange for industrial products hold out a promise for the future]

DOBB (M.). Studies in the Development of Capitalism. London: George Routledge, 1946. 8½". Pp. ix + 396. 18s.

[To be reviewed]

Domination or Co-operation? London: Fabian Publications and Victor Gollancz, 1946. 7". Pp. 17. 6d.

[This is the first of a new series of pamphlets issued by the Fabian Colonial Bureau under the title of *The Controversy Series*. This number consists of

extracts from speeches given at the conference on the relations between the British and Colonial peoples organised by the Bureau and held at Clacton in April of this year. Among the speakers were Prof. T. S. Simey, Dr. Arthur Lewis, Dr. Rita Hinden and Mr. Frank Horrabin.]

FISHER (A. G. B.). Education and Economic Change. South Australia: W. E. A. Press, 1946. 8". Pp. 36. 1*s*.

[Prof. Fisher sets out to answer the question, "What part, if any, should be allotted to education in any programme designed to ensure that productive resources are so used as to bring the highest possible standard of living within the reach of the members of an economy?" Prof. Fisher argues that a wide extension of educational services of many kinds is both wise and in the long run profitable]

FISHER (A. G. B.). International Implications of Full Employment in Great Britain. London and New York: Royal Institute of International Affairs, 1946. 8". Pp. 202. 15*s*.

[To be reviewed.]

FORDE (DARYLL) and SCOTT (RICHENDA) and Edited by PERHAM (MARGERY). The Native Economies of Nigeria. London: Faber & Faber, 1946. 8½". Pp. xxi + 312. 25*s*.

[To be reviewed.]

FOWKE (V. C.). Canadian Agricultural Policy: The Historical Pattern. Toronto: University of Toronto Press (Oxford University Press), 1946. 9". Pp. xii + 304. 16*s*.

[Reviewed in this issue.]

FRANKEL (H.). Poland, the Struggle for Power, 1772–1939. London: Lindsay Drummond Ltd., 1946. 8½". Pp. 191. 12*s*. 6*d*.

[From this study of the social and economic factors in the history of Poland during the last century and a half, the author draws the conclusion that her backwardness in most spheres and her helplessness in the face of foreign aggression were due in large measure to the oppression of her peoples. The author has read widely in Polish, English, German and French literature on the subject, and a list of sources is given at the end of each chapter.]

GANDHI (M. P.) (Ed.). The Indian Cotton Textile Industry (1945–46 Annual). Bombay: Gandhi & Co., 1946. 9½". Pp. xl + 88 + xx + 56 + xxvii. Rs. 5.

[This annual publication contains the usual and most informative statistical analysis and discussion of the present position and outlook for the Indian cotton industry. The latter includes an examination of export policy, output targets, re-equipment and the like, as well as comparative information for other textile-producing countries. Appendices cover raw cotton supplies, the Indian hand-loom industry, and a list of Indian cotton-mills, with their managing agents, numbers of looms, spindles and the like.]

GLAISYER (JANET), BRENNAN (T.), RITCHIE (W.) and SARGANT (FLORENCE P.). County Town. A civic survey for the planning of Worcester. London: John Murray, 1946. 9½". Pp. 320. 21*s*.

[To be reviewed.]

GRANT (M.). From Imperium to Auctoritas. A historical study of Aes Coinage in the Roman Empire, 49 B.C.–A.D. 14. Cambridge University Press, 1946. 11". Pp. xvii + 510 + plates. 63*s*.

[To be reviewed.]

HENDERSON (SIR HUBERT D). The International Economic Problem. London: Oxford University Press, 1946. 7". Pp. 20. 1*s*.

[Sir Hubert Henderson devoted his Stamp Memorial Lecture in the University of London to a discussion of the remarkable contrasts between the great growth of international trade under the stimulus of free enterprise in the Victorian

age and its stagnation, coupled with increasing control, in the 1930's. If the difficulties which arose between the wars were the consequence of the need to make the adjustments required by changes in the balances of payment brought about by the war of 1914–18, he finds the outlook for the future, with far greater adjustments necessary in the case of the U.K. and other nations, even more gloomy : " it seems optimistic in the extreme to suppose that [the disequilibrium] can be corrected by the free play of competitive prices under the conditions which are now being laid down. Indeed, the question arises whether the insistence, which is so prominent in current plans, on the principle of non-discrimination is not fundamentally irreconcilable with the solution of this vital problem."]

HERMANN (GRETE). Politics and Ethics. London : International Publishing Company, 1946. 8½". Pp. 84. 2*s*. 6*d*.

[Dr. Grete Hermann argues that in the recent development of our civilisation " industry and inventiveness have almost exclusively been used as a means to study and control the forces of nature and society. Scientific progress in the last century was primarily a great advance in natural science and technique. The one-sided nature of this development had grave consequences. In the natural sciences attention is concentrated on the investigation of the causes of events and the natural forces under which they occur, and scientists have therefore tended to overlook the ethical question of the value of human actions and aspirations. . . . These ethical questions must therefore receive the same careful attention as modern scientists apply in their own province."]

HINDEN (RITA). Socialists and the Empire. London : Fabian Publications and Victor Gollancz, 1946. 8". Pp. 27. 1*s*.

[In this review of the five years' work done by the Fabian Colonial Bureau since its inception in 1940, Dr. Rita Hinden discusses some of the problems of our relationship with the colonial peoples and some of the different solutions to the problem of " imperialism " put forward by members of the Labour Party.]

Indian Engineering Industries. Calcutta : Engineering Association of India, 1946. 8½". Pp. x + 388. Rs. 10.

[This volume, after a short introduction, provides a list of firms with their main activities, outputs and capitalisation in the different branches of the metal and engineering industries of India.]

KENDALL (M. G.). The Advanced Theory of Statistics. Vol. II. London : Charles Griffin & Co., 1946. 10½". Pp. 521. 50*s*.

[To be reviewed.]

KONIKOFF (A.). Transjordan, an economic survey. Jerusalem : Economic Research Institute of the Jewish Agency for Palestine, 1946. 9½". Pp. 120.

[A survey of the land, population, resources, water supplies, communications, monetary and fiscal systems and of the trade and industry of Transjordan, to which are attached a statistical abstract and a detailed bibliography.]

Law on the Five-Year Plan for the Rehabilitation and Development of the National Economy of the U.S.S.R., 1946–50. London : " Soviet News," 1946. 7". Pp. 104. 1*s*.

[This gives in fairly considerable detail the objectives of the current Five-Year Plan. In brief, it aims to recover the pre-war levels of output by 1948 and to reach by 1950 a level of industrial output 48% above pre-war. That will include (to quote a few examples) a steel output of 25·4 m. tons, a coal output of 250 m. tons, new power-stations with a capacity of 2·3 m. k.w. The main emphasis will again be on development of the heavy industries, and capacity generally; but substantial increases are planned in the output of consumption goods, though even at the end of the period the output rates will not be high by the standards of the older industrial countries. It is intended to take vigorous measures to improve industrial efficiency, particularly in the heavy industries and building, by improving mechanical equipment and cutting out wasteful use of labour. In passing, some interesting figures are given of Russian war production rates in the main categories.]

LAYTON (SIR WALTER). Newsprint: A Problem for Democracy. London: P. O'Donoghue, 1946. 9½". Pp. 19. 6*d*.

[Sir Walter Layton's pamphlet, published in September 1946, shows how severely the paper supplies to newspapers had been cut and the dangers in a democracy of starving people of news. In May 1946, nearly a year after the end of war in Europe, the London penny morning papers were getting 20% of their pre-war consumption, and the evening papers 26%. Sir Walter Layton argues convincingly for a substantial increase now that the American loan has somewhat mitigated immediate financial difficulties, so as to restore a six-page basis and the freeing of sales sufficiently (he estimates 10%) to allow circulations to adjust to changes of demand.]

LINDSAY (SIR HARRY). Imperial Institute Annual Report, 1945. London: Imperial Institute, 1945. 10". Pp. 74.

[This report provides a brief indication of the multifarious activities of the Institute in discovering new economic crops for many territories and in developing substitutes for materials and foodstuffs in short supply. There is included a rather more detailed discussion of methods of improving the qualities of natural rubber.]

MACKAY (R. A.). Newfoundland, Economic, Diplomatic, and Strategic Studies. Toronto and London: Oxford University Press, 1946. 9". Pp. xiv + 577. 30*s*.

[To be reviewed.]

MCNICOL (H. B.). History, Heritage, and Environment. The place of social studies in secondary schools. London: Faber & Faber, 1946. 7½". Pp. 192. 7*s*. 6*d*.

[This book, by the head of the History Department of Mexborough Grammar School, sprang out of a dissatisfaction with the results of the ordinary methods of teaching history at schools and a conviction that it would be better to substitute a new curriculum drawn more widely from the social sciences and English, so designed as to give an essential minimum of education in citizenship and philosophy. As a second best, without wholesale reconstruction of the existing curriculum, much can be done to achieve these ends. The author discusses in frank and entertaining fashion the methods, techniques and materials of teaching. His book deserves attention from any who are teaching economics at the schoolboy stage.]

MORTISHED (R. J. P.). The World Parliament of Labour. A Study of the I.L.O. London: Fabian Publications and Victor Gollancz, 1946. 8". Pp. 41. 2*s*.

[This is a useful short account of the history and activities of the I.L.O., together with a discussion of the existing plans for its future and of desirable lines of development.]

MUKERJEE (R.). Planning the Countryside. Bombay: Hind Kitabs, 1946. 8½". Pp. 190. Rs. 7.8.

[Prof. Mukerjee has been appointed Economic Adviser to the State of Gwalior and his book represents an economic development plan for the State. Since the population of the State is primarily agricultural, the plan, as the name of Prof. Mukerjee's book indicates, is primarily a plan for rural and agricultural development. In the top priority he puts canal and well irrigation schemes, erosion control, dissemination of improved seeds, introduction of dry farming methods, and similar measures to protect rather than to develop. Next he puts measures to give agricultural security, such as improvements of tenure and protection from usury. But besides these more direct measures, he advocates improvements of medical and social services, an attack on illiteracy (only 8% are now literate) and emancipation from outgrown social customs. Finally substantial improvements are necessary in transport and communications. While Prof. Mukerjee suggests a large number of improvements in rural handicrafts, his more general recommendations in the field of industrialisation remain to be worked out and are not included here. One most interesting and practical recommendation is that a start shall be made in two pilot projects, one in Gwalior and one in Malwa, each covering 10 or 15 villages, so that the feasibility of the

whole integrated plan may be tested first on a small scale, but in its full completeness. Prof. Mukerjee indicates that a start on these pilot projects has been approved.]

MURANJAN (S. K.). Economics of Post-War India. 2nd edition. Bombay: Hind Kitabs, 1946. 9". Pp. xv + 208. Rs. 5.12.

[This volume reprints a selection of articles contributed to journals and newspapers on current economic affairs. They fall into various groups: the economics of transition; economic planning and the Bombay Plan, its finance and main features; stabilisation of agricultural prices; the investment market, money, credit interest rates and banking in war and peace; problems of Indian currency and exchange; Bretton Woods; food; control and de-control. Prof. Muranjan includes an interesting discussion of the possible difficulties involved in the repatriation of India's sterling balances. He argues that the total of some £3,500 millions of sterling balances would require only ten years of a payment of £350 millions, which would represent about half the U.K.'s current savings and should not (in his view) be beyond her capacity to pay. He does not make it wholly clear whether he would agree that the problems of transfer of that order of magnitude would be almost insoluble unless creditors were under some obligation to buy both normal and abnormal purchases from the U.K. (with greatly diminished foreign income Britain has the problem of finding more exports to cover minimum imports apart from repayments). Nor does he refer to the problems of making good war damage and uncovered depreciation in Britain; a large part of Britain's *net* investment over the next few years, while *net* in relation to the current year, will not represent a *net* investment in relation to pre-war capital equipment. But he has one further suggestion that may warrant further consideration—that there should be further balancing of the remaining British foreign assets against Britain's liabilities. It will be fully as important for Indian economists to understand the problems of Britain as for British economists to understand those of India, if mutually satisfactory solutions are to be found. To the latter understanding, Prof. Muranjan's book will be a valuable help.]

NATESAN (L. A.). State Management and Control of Railways in India. A study of railway finance rates and policy during 1920–37. University of Calcutta, 1946. 9". Pp. xxiii + 496. Rs. 12.00.

[To be reviewed.]

NIXON (EDNA). John Hilton. London: Allen & Unwin, 1946. 8½". Pp. 341. 15*s*.

[Reviewed in this issue.]

NUFFIELD COLLEGE. Training for Social Work. London: Oxford University Press, 1946. 7". Pp. 62. 2*s*. 6*d*.

[This contains two papers. In the first Prof. T. H. Marshall discusses the basic training for all types of social work; he would suggest a general basis to include a study of social administration, economic structure and sociology, supplemented by an introduction to the main principles of psychology and physiology—the latter subordinated to the former; some acquaintance with social and political philosophy and ethics is also desirable, if only to solve the internal mental conflicts of the social workers themselves. On the question how these should be taught—whether by lectures, class discussions, individual tuition, whether in general terms or by studying particular contemporary problems in the light of the principles—Prof. Marshall declines to dogmatise. Dr. Charlotte Leubuscher discusses at greater length the development and present position of social studies in British universities, the work of the Social Science Departments, its relation to careers, and the problems of the future. She emphasises that it is of the nature of a university training that it is general and not specialised, and that some special training for special tasks must almost certainly also be provided when the student gets to actual work.]

PIM (SIR ALAN). Colonial Agricultural Production. The contribution made by native peasants and by foreign enterprise. Oxford University Press (Royal Institute of International Affairs), 1946. 8½". Pp. ix + 190. 10*s*. 6*d*.

[To be reviewed.]

PONTIFEX (B.). The City of London Livery Companies. London: Methuen & Co., 1939. 7½″. Pp. 93. 6s.

[Mr. Pontifex, who is a Past Master of the Worshipful Company of Armourers and Brasiers, has written a quite fascinating account of the craft guilds, their origins, organisations, functions and activities. He describes their halls, plate, and religious connexions and explains their functions in the election of Lord Mayor, and Sheriffs. In a final section he describes their charitable activities and their relations to education and other activities.]

QURESHI (A. I.). Islam and the Theory of Interest. Lahore: Shaikh Muhammad Ashraf, 1946. 8½″. Pp. xxiv + 219. Rs. 5.0.

[To be reviewed.]

RANGA (N. G.). Colonial and Coloured Peoples. A programme for their freedom and progress. Bombay: Hind Kitabs, 1946. 7″. Pp. 222. 8s. 6d.

[An indictment of imperialism and a plea for the freedom of all colonial and oppressed peoples.]

ROSENBERG (L.). The Jewish Community of Winnipeg. Montreal: Bureau of Social and Economic Research, Canadian Jewish Congress, 1946. 9½″. Pp. 96.

[This study of the Jewish community in Winnipeg is the first of a series of population studies of Jewish communities in Canadian cities. The information is clearly and concisely given, and deals with such questions as population distribution, age and sex distribution, occupational distribution and language.]

RUSSELL (R.) (Ed.). Britain's Commercial Treaty Position. London: Empire Economic Union, 1946. 8½″. Pp. 87. 1s.

[This reference book, compiled for the Empire Economic Union, is a convenient record of the various commercial treaties and obligations of this country. It includes a valuable appendix which gives for each main commodity group the rate of duty and the countries concerned in any agreement covering it, and another appendix setting out all the margins of preference and the countries concerned.]

SAMUEL (L.). Jewish Agriculture in Palestine. A progressive factor in Middle East economy. Jerusalem: Economic Research Institute of the Jewish Agency for Palestine, 1946. 9½″. Pp. viii + 143.

[The first section of this is a detailed statistical investigation of the dimension of the internal markets in Palestine for different foodstuffs. It contains a great deal of material which would be relevant to such kindred problems as national income calculations. A second section outlines proposals for a future agricultural policy.]

SCHUMACHER (E. F.) and FLIESS (W.). Betrachtungen zur Deutschen Finanzreform. London: Zuschriften an: W. Sander, 1945. 8½″. Pp. 23. 1s.

[A small popular pamphlet which tries to deal with the almost insuperable problems of German financial policy over the next few years. It is particularly interesting in that it deals with the problem, particularly acute in Germany, of a country whose problem is not merely to control expenditure out of current incomes, but even to a greater degree to control expenditure out of monetary stocks accumulated from past savings.]

SHENOY (B. R.). The Bombay Plan. A review of its financial provisions. Bombay: Karnatak Publishing House, 1945. 8½″. Pp. 44. Rs. 1.4.

[Prof. Shenoy is in general agreement with the Bombay Plan, but is in disagreement with its financial aspects. "Their failure to recognise clearly that the balance of trade forms but part of the community's savings and that the incidence of created money, like that of voluntary saving, is upon the consumption of the citizen has led to the error of double, or, perhaps, even treble, count-

ing. This has considerably inflated their estimate of the figure of the capital much above the level which we may expect the Indian economy to produce without engendering its own collapse." He puts forward certain financial proposals, and considers that "the actual capacity of the Indian economy to generate capital would seem to be somewhat below half" the Rs. 10,000 crores which is the estimate of the authors of the plan.]

SHENOY (B. R.). The Post-War Depression and the Way Out. Allahabad: Kitabistan, 1944. 7". Pp. 159. Rs. 3.0.

[This essay seeks to analyse the likely causes and possible means of escape from an immediate post-war boom followed by a collapse. The analysis is not everywhere easy to follow, but would imply a keen competition for producer's goods, leading to competition for productive resources, continued shortages of consumer's goods, increasing interest rates and difficulties of completing capital projects, the abandonment of half completed projects and the completion of others at enhanced prices through sale at cut prices of the security holdings of the investors concerned, collapse of stock exchange prices and depression. This analysis appears to assume inability to regulate the rate of investment in accordance with savings and greater difficulty than usually exists in adjusting the rate of investment; in fact the stream of building (which forms a large part of investment) is made up of many relatively small and short projects and its size and composition is capable of substantial alteration over so short a period as three months. The author would have sought (had it been possible) to prevent the post-war boom and depression by averting the methods of war finance. He finds the main source of danger in the accumulation of securities through war-time borrowing. If that were impossible he would urge a heavy capital levy immediately after the end of the war for the same purpose.]

SOULE (G.). America's Stake in Britain's Future. London: Oxford University Press, 1946. 7½". Pp. xiii + 232. 10s. 6d.

[To be reviewed.]

SURIYAKUMARAN (C.). Ceylon, Beveridge and Bretton Woods. Colombo: Ceylon Daily News, 1946. 8½". Pp. 69.

[This booklet contains five largely independent papers. The first three deal respectively with different aspects of *International Economic Relations: The Currency Question; The Structural Problem; The Structures in Transition*. The fourth paper is entitled *Certain Considerations on the Formulation of an Economic and Industrial Policy for Ceylon*; while it is in no sense a plan, it makes various administrative proposals and sets out the possible financial orders of magnitude involved. The fifth paper deals with *The Beveridge Plan—Its Approach and its Implications*.]

TEKUMALLA (V.). Cottage Industries—What They Are. Madras: Provincial Co-operative Society, 1946. 7". Pp. 14. As. 5.

[The author, who is senior assistant of the Madras Handloom Weavers' Co-operative, describes the cottage industries of Coastal Andhra. In the main the booklet is devoted to problems of definition and to attempts so to define cottage industries as to distinguish them from village industries, handicrafts, and small-scale industries generally.]

TEKUMALLA (V.). The Cotton Lace Industry of South India. Madras: Provincial Co-operative Society, 1946. 7". Pp. v + 42. Rs. 1.4.

[Lace working, introduced into Southern India by women missionaries, had grown, so that by 1926 there were 6,500 workers in the three main centres. Among the products were wedding-veils, which were exported all over the world. There was a heavy fall of demand about 1925; fashion shifted, and the somewhat second-rate imported designs failed to find a market, prices and wages fell, and the industry became depressed. Its future will turn largely on whether a home market can be found, and Indian taste can develop better designs.]

TODD (J. A.). The Mechanism of Exchange. A handbook of economics (currency, banking and trade). 5th edition. London: Oxford University Press, 1946. 7½". Pp. xxi + 276. 7s. 6d.

[This is a new edition of a familiar text-book first published in 1917 and revised at intervals during the twenty-odd years down to the beginning of the

war. The present edition is substantially a reprint of the 1939 edition with a new preface covering the events of the war-time years and indicating in brief their effects on the pre-war system.]

UNWIN (SIR STANLEY). The Truth about Publishing. London: Allen & Unwin, 1946. 8". Pp. 352. 8*s*. 6*d*.

[To be reviewed.]

VAKIL (C. N.), ANJARIA (J. J.) and LAKDAWALLA (D. T.). Price Control and Food Supply, with special reference to Bombay City. Bombay: N. M. Tripathi & Co., 1943. 8½". Pp. iii + 120. Rs. 3.

[This study, based on an inquiry into the working of price control and food supply in Bombay made at the end of 1942, raises all the essential problems of how, if one wishes to prevent price increases, one can ensure supplies, be just to producers, arrange fair distribution and the like. It is a very interesting record of how the logic of events drove the administration step by step to increase its control.]

VENKATASUBBIAH (H.). The Foreign Trade of India, 1900–1940. Bombay: Oxford University Press (New Delhi: Indian Council of World Affairs), 1946. 8½". Pp. 83. Rs. 3.8.

[To be reviewed.]

VOZNESENSKY (N. A.). Report on the Five-Year Plan, 1946–50. London: "Soviet News," 1946. 7". Pp. 39. 6*d*.

[This Report to the Supreme Soviet of the U.S.S.R. covers in slightly abbreviated form almost exactly the same ground as does the Law on the Five-Year Plan, noted above.]

WADIA (P. A.) and MERCHANT (K. T.). The Bombay Plan, a criticism. Bombay: Popular Book Depot, 1946. 8½". Pp. 60. Rs. 1.8.

[The present controversy over the Bombay Plan is most interesting, for it presages the gradual emergence in India of other divisions of thought more akin to the political divisions of other countries than the predominating cleavage on religious lines. Profs. Wadia and Merchant, after briefly reviewing the main features of the plan (of which they print a useful summary) subject it to severe criticism on the ground that the plan is essentially a capitalist plan, aimed to establish a flourishing *laisser faire* capitalist system in India, rather than a Socialist plan, aimed to benefit the whole community. They doubt whether the benefits would really accrue where they are most needed: to the agricultural and poorer classes generally. They argue that in present conditions in India heroic measures and rapid change is essential. They fear above all a lethargic pursuit of a philosophy of gradualism.]

WADSWORTH (J.). Counter Defensive, being the story of a bank in battle. London: Hodder & Stoughton, 1946. 9½". Pp. 99. 12*s*. 6*d*.

[To be reviewed.]

WALLACE (W.). Enterprise First. The Relationship of the State to Industry, with particular reference to private enterprise. London: Longmans, Green, 1946. 8½". Pp. 112. 8*s*. 6*d*.

[To be reviewed.]

WEDGWOOD (SIR RALPH L.) and WHEELER (J. E.). International Rail Transport. London: Oxford University Press, 1946. 8½". Pp. xi + 162. 10*s*. 6*d*.

[Reviewed in this issue.]

WEISS (E. D.). Air Transport. No. 2 of the New Era Books. London: Art and Educational Publishers Ltd., 1946. 7". Pp. 59. 2*s*. 6*d*.

[Dr. Weiss has produced a simple, straightforward and thorough survey of some of the basic problems of air transport. He brings to this subject the econo-

mist's approach, and within the limited scope of a small but essentially readable book, illustrates very clearly some of the real forces at work, and points out the dangers of ignoring them. He shows that time-saving is not enough, either for passengers or freight, and that the demand for air transport is of a complex nature which must be considered when planning airways. There is an interesting analysis of the high costs of air transport, which appears to show no signs of decreasing costs accompanying its phenomenal expansion. Capital costs per seat or pound of freight are considerably higher than in other forms of transport, the rate of obsolescence is high, and consequently intensive utilisation is necessary. Traffic is the key to the problem. In addition, as the author points out, air transport seems to conflict violently with nationalistic sentiment, and the industry has to contend, like so many others only to a greater degree, with artificial barriers and hindrances to economic operation. There is an interesting chapter on the size of the firm and the closely related problem of the rôle of the State in Civil Aviation. Figures from the abundant material in the United States show that the largest firms do not have the lowest costs. Great Britain has nevertheless chosen the large public corporation; the need for efficient and enterprising management is therefore all the greater, and when economic criteria and the "public interest" diverge, this divergence should be explicitly recognised. The fundamental interest of the State in Civil aviation is recognised, but Dr. Weiss gives a timely warning that State operation is no guarantee that airlines will be conducted in accordance with the underlying economic generalities, and shows that the evidence so far probably proves the reverse to be the case. "However much public and national resources require the institution of services which hold out no promise of covering their cost for a long time to come, no nation can afford to discard completely any criteria of commercial efficiency." On the subject of the British Government's action in insisting on Pan American Airways raising their fare shortly after the end of the war, Dr. Weiss suggests that, while this may have seemed eminently justifiable at the time, the principle of exercising political and strategic pressure to maintain higher charges in air transport is likely to have undesirable repercussions, and a precedent has been established which may later prove embarrassing when others "aver with a certain amount of justification that they cannot allow a competitor who is in a temporary situation of economic superiority to dictate the terms and charges on routes which cross or touch their territory." The author concludes with a plea for more extensive research into the problems of air transport, and his comment that most of the relevant literature is on the other side of the Atlantic is one which merits consideration by those responsible for the future development of British Civil Aviation.]

World Unity Booklets. Nos. 1, 2 and 3. London: Herbert Joseph Ltd., 1946. 8½″. Pp. 28. 2*s*. each.

[These three World Unity Booklets are the first of a series of studies in world reconstruction. The first includes two essays: Prof. de Madariaga on *World Government: Dream or Necessity*, which is a reprint of the final chapter of a book entitled *I Americans*, published by the Oxford University Press in 1930 and deals with the lessons of the past working of the League; the second essay, by Prof. R. H. MacIver, on *Fundamentals of International Order*, written in the blackest days of the war, tackles the essential problems of peace-making. Dr. Friedmann is concerned with the problem of the forms, organisation and methods of financing and controlling the varied *International Public Corporations* which are proliferating in the contemporary international economic field—monetary funds, banks, postal unions, the proposed Danube Commission and the like. The report entitled *Framework for a World of Plenty* is the work of an international research group, which (mainly because many of its members were Civil Servants in their various countries) has preferred to remain anonymous. They regard economic planning as unavoidable if the maximum of economic output is to be obtained, and they fear that some elements of compulsion as well as of persuasion may be necessary; but they regard the precise forms of inducement as matters for decision by the various States in accord with the psychology and temperament of their peoples. Optimum activity must be the aim, but they argue that "full employment" cannot be achieved by any individual country in isolation; it must be sought on an international scale. In the sphere of international commodity controls the first thing is to avoid monopolies and cartels; but steps to stabilise in the general interest are to be welcomed; for this purpose they would advocate a Commodity Union. They advocate also an International Trade Commission to limit tariffs and trade barriers, and organisation for the control of exchanges and for international

lending, differing only in detail from that proposed at Bretton Woods. Altogether these new booklets represent solid and serious thinking and deserve attention.]

WRIGHT (F. J.). Commerce. Vol. 2. London: English Universities Press Ltd., 1946. 8½". Pp. 271. 7*s*. 6*d*.

[To be reviewed.]

YOUNG (E. P.). Czechoslovakia. "Citizens of the World" No. 1. London: St. Botolph Publishing Co., Ltd., 1946. 8½". Pp. 118. Paper 3*s*. 6*d*. Cloth 5*s*.

[A brief sketch of the country of Czechoslovakia—her history, communications, constitution, people's organisations, social conditions and services, education and culture, and her present situation. One is slightly surprised to read on the second page of the chapter entitled *History*, when he reaches the Munich crisis that "it is now quite authoritatively established that the whole 'crisis' was a hoax, contrived by Messrs. Chamberlain, Daladier, Hitler and Mussolini, for the purpose of extricating Hitler from an *impasse* which would otherwise have meant the downfall—probably without any war—of the foul Nazi regime."]

ZAYTZEFF (A. N.). War Prevention and the Principle of Sovereignty. Dublin: Morris & Co., 1946. 7". Pp. 46. 2*s*. 6*d*.

[A plea for a federated world state as the only way to world peace, and world-wide economic planning in place of the *sauve qui peut* attitude of the sovereign states. "Sooner or later humanity will find itself before the alternative: Either reduce the frontiers to the importance of mere administrative limits or renounce progress." In the second part of the book Dr. Zaytzeff puts forward his own plan. It is unfortunate that in certain places the book is rendered more than a little difficult to read by the wrong use of words and by odd constructions of sentences.]

American.

ABBOTT (C. C.). Management of the Federal Debt. New York and London: McGraw-Hill Book Company, 1946. 8". Pp. ix + 187. 12*s*. 6*d*.

[To be reviewed.]

ATKINS (W. E.) and Others. The Regulation of the Security Markets. Washington, D.C.: Brookings Institution, 1946. 8". Pp. 126. $2.00.

[This small study for the Brookings Institution begins with an over-all view of the U.S. capital market and an account of the development of American investment banking, mainly over the past half-century. It then goes on to describe the various federal regulatory acts: the Securities Act of 1933; the Securities Exchange Act of 1934; the regulation of over-the-counter markets; the Public Utility Holding Company Act of 1935; the Chandler Act; the Trust Indenture Act; the Investment Company Act of 1940 and the Investment Advisers Act of the same year. Finally it analyses the main current issues: Should regulation go beyond the prevention of fraud? Is private placement desirable? Can security legislation be simplified? and a number of other similar issues.]

BASCH (A.). A Price for Peace. The new Europe and world markets. New York: Columbia University Press (Oxford University Press), 1946. 8". Pp. xii + 209. 16*s*. 6*d*.

[To be reviewed.]

BOLLINGER (L. L.), PASSEN (A). and MCELFRESH (R. E.). Terminal Airport Financing and Management. Harvard University: Division of Research, Graduate School of Business Administration, 1946. 8". Pp. xiv + 385. $4.25.

[To be reviewed.]

BORDEN (N. H.), TAYLOR (M. D.) and HOVDE (H. T.). National Advertising in Newspapers. Cambridge, Mass.: Harvard University Press (Oxford University Press), 1946. 8". Pp. xiv + 486. 28s.

[To be reviewed.]

BURGIN (M.). Economic Aspects of Argentine Federalism. Cambridge, Mass.: Harvard University Press (Oxford University Press), 1946. 8½". Pp. xiv + 304. 22s. 6d.

[This is a study of the conflicting doctrines and programmes of the unitaries and the federalists in the Argentine's economic development between 1820 and 1852.]

BURNS (A. F.) and MITCHELL (W. C.). Measuring Business Cycles. New York: National Bureau of Economic Research, 1946. 12". Pp. xxvii + 560. $5.00.

[To be reviewed.]

CARLSON (V.). An Introduction to Modern Economics. Philadelphia: Blakiston Company, 1946. 8½". Pp. xvii + 337. $3.50.

[To be reviewed.]

CHAMBERLIN (E.). The Theory of Monopolistic Competition. Cambridge, Mass.: Harvard University Press (Oxford University Press), 1946. 8½". Pp. xiv + 275. 20s.

[To be reviewed.]

CONDOIDE (M. V.). Russian-American Trade. Ohio State University: Bureau of Business Research, College of Commerce and Administration, 1946. 9". Pp. xiii + 160. $2.50.

[To be reviewed.]

FELLNER (W. J.). Monetary Policies and Full Employment. Berkeley and Los Angeles: University of California Press, 1946. 9". Pp. xx + 269. $3.50.

[To be reviewed.]

FILIPETTI (G.). Industrial Management in Transition. Chicago: Richard D. Irwin, Inc., 1946. 9". Pp. 311.

[To be reviewed.]

GAMBS (J. S.). Beyond Supply and Demand. A reappraisal of institutional economics. New York: Columbia University Press (Oxford University Press), 1946. 8½". Pp. 105. 10s. 6d.

[To be reviewed.]

HEIMANN (E.). History of Economic Doctrines. An introduction to economic theory. New York and London: Oxford University Press, 1945. 8½". Pp. ix + 263. 18s.

[To be reviewed.]

KIDNER (F. L.). California Business Cycles. Berkeley and Los Angeles: University of California Press, 1946. 9". Pp. xiv + 131. $2.50.

[To be reviewed.]

KNORR (K. E.). World Rubber and its Regulation. California: Stanford University Press (Oxford University Press), 1945. 9". Pp. x + 265. 22s.

[To be reviewed.]

LOEB (H.). Full Production without War. Princeton University Press (Oxford University Press), 1946. 8½". Pp. xviii + 284. 23s. 6d.

[To be reviewed.]

LYNCH (D.). The Concentration of Economic Power. New York: Columbia University Press (Oxford University Press), 1946. 9". Pp. x + 423. 30s.

[To be reviewed.]

MASON (E. S.). Controlling World Trade. Cartels and Commodity Agreements. New York and London: McGraw-Hill Publishing Company, 1946. 9". Pp. xi + 289. 12s. 6d.

[To be reviewed.]

MAVERICK (L. A.). China, a Model for Europe. San Antonio, Texas: Paul Anderson Company (London: Allen & Unwin), 1946. 9". Pp. 334.

[This is a book about a much-ignored field: the cultural communications and influences between China and the West. It is divided into two volumes. In the first volume, entitled *China's Economy and Government Admired by Seventeenth- and Eighteenth-century Europeans*, the author retraces the routes through which the early Chinese political and economical thought influenced the thinkers of the eighteenth-century Europe. Although the whole subject is not treated in great detail, the two chapters of this volume add much light to an important field. The second volume is a translation into English of François Quesnay's book *Le Despotisme de la Chine* in 1767. It is surprising that, this leading physiocrat having written a book about the Chinese political system, an English translation should come only two centuries after its publication.]

MILLSPAUGH (A. C.). Americans in Persia. Washington, D.C.: Brookings Institution, 1946. 9". Pp. ix + 293. $3.00.

[Dr. Millspaugh, who spent five years in Persia from 1922 to 1927 as Administrator-General of the Finances, returned to that country in 1943 with a powerful American Financial Mission and devoted two years to assisting the Persian Government to deal with its economic difficulties in that turbulent period of inflation and shortages. Dr. Millspaugh's book is more than a history of his mission and throws light on many of Persia's economic problems. Naturally enough, Dr. Millspaugh is largely concerned with the political and human problems of administration.]

MISES (L. von) and TUCKER (R. S.). Economic Planning. New York: Dynamic America, Inc., 1945. 8½". Pp. 29.

[These two rather brief papers were delivered by the authors before the American Academy of Political and Social Science in Philadelphia during March 1945. Dr. von Mises, in a paper entitled *Planning for Freedom*, concludes that "those who pretend that they want to preserve freedom, while they are eager to fix prices, wage rates, and interest rates at a level different from that of the market, delude themselves. There is no other alternative to totalitarian slavery than liberty. There is no other planning for freedom and general welfare than to let the market system work. There is no other means to attain full employment, rising real wages and a high standard of living for the common people than private initiative and free enterprise." Dr. Rufus Tucker speaking on *The Return to "Enlightened Despotism"* compares present ideas of planning to those of the eighteenth-century despots.]

NATHAN (R. R.), GASS (O.) and CREAMER (D.). Palestine: Problem and Promise. Washington, D.C.: Public Affairs Press of the American Council on Public Affairs, 1946. 9". Pp. 675. $5.00.

[To be reviewed.]

ODUM (H. W.) and JOCHER (KATHARINE) (Ed.). In Search of the Regional Balance of America. Chapel Hill: University of North Carolina Press, 1945. 10". Pp. 162. $3.00.

[This is a record and appraisal of the first quarter of a century's work of the Institute for Research in Social Sciences of the University of North Carolina.]

The Pioneer Period of European Railroads. A tribute to Mr. Thomas W. Streeter. Boston, Mass.: Baker Library, Harvard Graduate School of Business Administration, 1946. 10½". Pp. 71. 50 cents.

[The Baker Library at Harvard has published this volume as a tribute to Mr. T. W. Streeter who had presented to the library his collection of material on railroads outside America. The volume takes the form of an introductory essay by Dr. Dunham on *The Pioneer Period of Railroads in England, France and the United States*, followed by a list of items relating to European railroad development, published in or before 1848, in the Baker or other Harvard libraries. The volume represents a useful bibliographical tool, quite apart from the direct value as a catalogue of a particular group of libraries.]

Price Control or Decontrol? Washington, D.C.: Chamber of Commerce of the United States of America, 1946. 9". Pp. 23.

[The U.S. Chamber of Commerce in this broadsheet advocates a gradual removal of all price controls, to be complete (apart from rent) by end-October 1946. It is suggested that if such controls are removed, and prices allowed to reach their natural levels, shortages would immediately disappear and competition, in time, would tend to force prices to correspond closely to costs. It is said that price controls have been retarding production—though why precisely all the shortages of particular components are to be attributed to price control is not clear. Many of the difficulties are, in the view of the Chamber, to be attributed to the official wage policy and to the excessive holdings by the public of cash and liquid resources. All these anomalies might disappear if some inflation were permitted. There has been both wage inflation and currency inflation. The attempt to prevent the consequential price adjustment is a misdiagnosis. "The solution can come only through a co-ordinated policy which deals not simply with the symptoms of inflation, as does price control, but with the real causes of the inflationary pressures which abound in many sectors of the economy."]

RADIN (G.). Economic Reconstruction in Yugoslavia. A practical plan for the Balkans. New York: King's Crown Press (for the Carnegie Endowment for International Peace) (Oxford University Press), 1946. 9". Pp. xii + 161. 16*s*. 6*d*.

[To be reviewed.]

Readings in the Theory of Income Distribution. Selected by a Committee of the American Economic Association. Philadelphia: Blakiston Company, 1946. 8½". Pp. xvi + 718. $4.25.

[To be reviewed.]

SILBERNER (E.). The Problem of War in Nineteenth Century Economic Thought. New Jersey: Princeton University Press (Oxford University Press), 1946. 8½". Pp. xiv + 332. 20*s*.

[To be reviewed.]

SOUTHARD (F. A.). Some European Currency and Exchange Experiences: 1943–1946. Princeton: International Finance Section, Department of Economics and Social Institutions, Princeton University, 1946. 9". Pp. 23.

[The author, who from 1943 to 1945 was financial adviser at Allied Force Headquarters in the Mediterranean theatre, has put on record some of the experiences in that theatre of attempts to stabilise currencies, to substitute new currency issues for others destroyed by hyper-inflation, to fix exchange rates and to control and stabilise exchange rates.]

STIGLER (G. J.). The Theory of Competitive Price. New York and London: Macmillan, 1946. 8½". Pp. 197. 15*s*.

[To be reviewed.]

STIGLER (G. J.). The Theory of Price. New York: Macmillan Company, 1946. 9". Pp. 340. $3.75.

[To be reviewed.]

South American.

FERRERO (R. A.). La Política Fiscal y la Economía Nacional. Lima: Talleres Gráficos de la Editorial Lumen, S.A., 1946. 9½″. Pp. viii + 77.

[A study of the fiscal policy and national economy of Peru, by the Dean of the Faculty of Economics of the Catholic University of Peru.]

VILLEGAS (L. T.) and TORRES (A. E.). Estudio de los yacimientos ferríferos de México. Vol. II. Yacimientos del grupo del norte. Mexico: Investigaciones Industriales del Banco de México, 1946. 11″. Pp. 147.

[This large study of the iron-ore deposits in the Northern Province of Mexico provides both a detailed and statistical account of the available resources and a wealth of maps and photographs of the important areas.]

Belgian.

L'Évolution Économique de la Belgique, 1939–1945. Brussels: Kredietbank S.A., 1946. 8½″. Pp. 44.

[A brief and mainly statistical summary of economic events and changes in Belgium from 1939 to 1945. It is a useful secondary source of information about banking, currency, credit, prices, output of main commodities and the like.]

Danish.

ANDERSEN (P. N.). Bilateral Exchange Clearing Policy. Copenhagen: Institute of Economics and History (Oxford University Press), 1946. 10″. Pp. 242.

[To be reviewed.]

Dutch.

HENNIPMAN (P.). Economisch Motief en economisch Principe. Amsterdam: North Holland Publishing Co., 1945. 9½″. Pp. 479. F. 15.

[To be reviewed.]

JONG (A. M. de). Inleiding tot het Bevolkingsvraagstuk. The Hague: Martinus Nijhoff, 1946. 10″. Pp. 224. Gld. 7.80.

[To be reviewed.]

French.

CHOMBART DE LAUWE (J.). Bretagne et Pays de la Garonne. Paris: Presses Universitaires de France, 1946. 9½″. Pp. 188.

[M. Chombart de Lauwe, who combines with a training in economics the expertise of an agricultural engineer, has made an interesting study of the curiously unparallel development of Brittany and the Garonne. He begins with the state of these regions in 1840 when Arthur Young and Luttin de Chateauvieux recorded their impressions; then compares with them the statistical evidence for 1940, carrying his figures back where possible. Brittany has owed a considerable progress both to the growth of local demand and to the growth of national demand for her special products, largely animals. The Garonne has suffered a series of misfortunes, first to wheat-growing, second to maize, third to viticulture, largely as the result of phylloxera; sheep farming has shown a heavy decline not only in the Garonne, but in the whole of France. New products and types of farming have not grown sufficiently to take the place of these older products, and the region has gradually acquired many of the familiar attributes of a depressed area.]

DAMALAS (B. V.). La Crise du Capitalisme et le Problème de L'Économie Dirigée. Paris: Presses Universitaires de France, 1946. 10". Pp. 323. Frs. 240.

[To be reviewed.]

LESCOFFIER (F.). L'Économie de Grand Espace. Les Grands Blocs Économiques. Paris: Librairie Générale de Droit et de Jurisprudence. 1946. 7½". Pp. 210.

[A sympathetic account of the doctrines of Haushofer and his school on the subject of the "Economy of the Great Spaces." As the author explains in a footnote, the book was written before the liberation of France. It is also obvious that an attempt at adaptation to the new circumstances has been only imperfectly carried out: thus the realisation of the German "Grossraum" is still referred to in the future indicative.]

NOGARO (B.). Principes de Théorie Économique. Les concepts fondamentaux et leur utilisation. Paris: Librairie Générale de Droit et de Jurisprudence, 1943. 9". Pp. 308.

[To be reviewed.]

German.

HOFFMANN (W.). Wachstum und Wachstumsformen der englischen Industriewirtschaft von 1700 bis zur Gegenwart. Jena: Gustav Fischer, 1940. 9½". Pp. x + 284.

[To be reviewed.]

Italian.

FEDERICI (L.). La Moneta e l'Oro. 2nd edition. Milan: Casa Editrice Ambrosiana, 1943. 9½". Pp. xxiv + 718.

[A course of lectures on money held in the Commercial University at Milan.]

LUIGI (F.). Teoria dei Cambi, con particolare riguardo al caso delle monete segno. Milan: Casa Editrice Ambrosiana, 1945. 9½". Pp. 186.

[A theory of foreign exchanges between inconvertible currencies.]

VINCI (F.). Unità Mediterranea. 2nd edition. Milan: A. Giuffrè, 1946. 9". Pp. 194. 200 lire.

[The second edition of a book originally published in 1940 under the title *Capitoli di economia mediterranea.* The new edition is considerably improved and contains much economic information on the countries bordering on the Mediterranean sea; besides, the chapters of the earlier edition on the inevitability of a Fascist Mediterranean Empire and on the Justification of Economic Autarky have been omitted.]

Spanish.

CASTAÑEDA (J.). El Consumo de Tabaco en España y sus Factores. Madrid: Instituto de Estudios Políticos, 1945. 9½". Pp. 116. 12 pesetas.

[This study of the consumption of tobacco in Spain was in its original form presented as a thesis for a doctorate in the Faculty of Law at the University of Madrid. It considers the demand for the product, the relation between the consumption of the common varieties and the choicer types, and the equilibrium of the state monopoly of tobacco.]

PEDERSEN (J.). Teoría y Política del Dinero. Madrid: M. Aguilar, 1946. 8½". Pp. xxxi + 422. 70 pesetas.

[This is a Spanish translation of Prof. Pedersen's *Pengeteori og Pengepolitik,* published in Copenhagen in 1944; see ECONOMIC JOURNAL, December 1945, p. 487.]

Swiss.

EGGENSCHWILER (W.). Mehrkonsum. Eine Untersuchung über die sozialwirtschaftliche Bedeutung des Postulates einer aktiven Förderung des Massenkonsums. Berne: Verlag A. Francke AG, 1946. 9". Pp. 174. S.Fr. 11.50.

[To be reviewed.]

FIEZ (R.). Die Veränderungen in der Weltwirtschaftsstruktur und das Problem der internationalen Kapitalanlagen. Berne: Verlag A. Francke AG, 1946. 8". Pp. 124. S.Fr. 8.40.

[To be reviewed.]

FURLAN (L. V.). Das Harmoniegesetz der Statistik. Eine Untersuchung über die metrische Interdependenz der sozialen Erscheinungen. Basle: Verlag für Recht und Gesellschaft AG, 1946. 9". Pp. ix + 504.

[To be reviewed.]

HOWALD (O.). Einführung in die Agrarpolitik unter besonderer Berücksichtigung der schweizerischen Verhältnisse. Berne: Verlag A. Francke AG, 1946. 8½". Pp. 272. S.Fr. 12.80.

[To be reviewed.]

KAUFMANN (O. K.). Das neue ländliche Bodenrecht der Schweiz. St. Gallen: Verlag der Fehr'schen Buchhandlung, 1946. 9½". Pp. xx + 443. S.Fr. 25.

[Switzerland is one of the Continental countries with a highly developed statute law of agricultural land. There have been interesting changes in this during the last fifteen years, starting with emergency measures during the Great Depression. This book is a detailed commentary on these new legal developments. To the general economist, the most interesting part is Chapter IV which deals with the war-time regulations designed to prevent speculative transfer of farms and farm land. This chapter makes an interesting study of partial price control in a fundamentally liberal system.]

KAULLA (R.). Beiträge zur Entstehungsgeschichte des Geldes. Berne: Verlag A. Francke AG, 1945. 8½". Pp. 68.

[The bulk of this booklet consists of an essay on the "invention" of coins. As the inverted commas indicate, the author does not hold with the "rational" theories of the origin of money. He also believes that money institutions have grown "from below" much more than is commonly allowed for. This essay is preceded by two very brief ones, on the origin of the special esteem for gold (attributed by the author to its colour and sparkle), and on the function of metals in the early stages of economic exchange. One of the views put forward by the author is that the early exchange ratio of gold to silver was based on astronomical relations. Only historians are competent to judge this book.]

LUDWIG (A.). Die Finanzpolitik der Basler Konservativen von 1833–1914. Weinfelden: Neuenschwander'sche Verlagsbuchlung A.G., 1946. 9". Pp. 246.

[The problems of the Swiss Federation deserve particular attention in the field of financial policy. In this book, the author uses the Basel Canton for his field of study. He treats of the origin and development of various taxes, and discusses the conclusions that may be drawn from these facts in regard to financial technique and financial policy. The political controversies of the times are discussed as well. Besides an exhaustive treatment of direct taxes, the author also devotes much space to liquid capital taxation—that of banks, bank instruments and exchange operations. In addition, he discusses company taxes, the real estate tax, land policy, the cantonal bank, and loan policy. Finally, the author attempts to derive general lessons from the philosophy of taxation developed by the Basel authorities.]

RAKOWSKI (J.). Die "Vollbeschäftigung" im Kreuzfeuer. Berne: Verlag A. Francke AG, 1946. 8". Pp. 52. S.Fr. 2.80.

[To be reviewed.]

ROHNER (K.). Die schweizerischen Wirtschaftsvertretungen im Ausland. Berne: Verlag A. Francke AG, 1944. 9". Pp. x + 136.

[This specialised monograph on the assistance given to Swiss exporters by corporate representatives abroad is well written and informative. The first half deals with the official consular agencies, the second with the non-official ones, established by the Swiss Institute for Export Encouragement and by the Swiss Chambers of Commerce abroad. The book makes one wish for a similar study for British agencies abroad, specially in view of the present importance of the export drive. Better still, a comparative international volume might throw light on the different methods adopted by the leading economic countries to further their exports and their relative success.]

Official.

BRITISH.

Capital, Repair and Maintenance Expenditures of Business Enterprises in Canada. Ottawa: King's Printer and Controller of Stationery, 1946. 9½". Pp. 31.

[This is a most important small pamphlet, for it describes the methods used in Canada and assesses the extent of the success in obtaining forecasts of the gross investment for 1946. This is a problem of first-rate importance both in the U.K. and in other countries where it is proposed to maintain full employment through planning and control of investment, and the Canadian methods and experience should be carefully studied.]

India. Guide to Current Official Statistics. Vol. I. Production and Prices. By S. Subramanian. Delhi: Manager of Publications, 1945. 9½". Pp. 144. 4*s*.

[The chief improvements in this annual publication are an appendix on the revised All-India index of wholesale food prices and a critical study of the various Provincial series of cost of living index numbers.]

Manpower and Material Requirements for a Housing Program in Canada. Ottawa: King's Printer and Controller of Stationery, 1946. 9½". Pp. 137. 50 cents.

[This is a very full and detailed statistical study of the various materials, fitments, and man-power requirements in terms of a housing target varying in dimensions from 50,000 to 80,000 units per year. The result of the enquiry is to show that a target of 60,000 houses is well within Canada's productive capacity.]

Reconversion, Modernization and Expansion. Progress and Programs in Selected Canadian Manufacturing Industries, 1945–1947. Ottawa: Department of Reconstruction and Supply, 1946. 13½". Pp. 105.

[Is it simply that Canada is on a smaller and more manageable scale that enables that enterprising country to provide all the information and statistical analysis which we would so dearly like to have and so patently lack? Here is a full, detailed, statistical analysis of a 40% sample of the progress of the various Canadian industries with their reconstruction plans, information as to what they are doing, how far they are held up by shortages, the course of employment in total and sometimes in particular plants. About three-eighths of all plants required reconversion before peace-time production could start. About half of these had finished reconversion by the end of February, 1946. Of the remainder over half expected to have finished by last August, and over four-fifths by the end of 1946. Plans for modernisation are reported and are analysed by size of plant, and the possible effects on employment are also stated.]

Social and Economic Planning Council. First Annual Report for the Year ended 30th September, 1945. Pretoria: Government Printer, 1945. 13″. Pp. 4. 6*d.*

[This is a first report of the Council, setting out very briefly the work that has currently been undertaken, some of which has been published, other of which is still in preparation. One very interesting administrative arrangement emerges. The Union Prime Minister has agreed that the professional staff of the Council shall provide services for Government Commissions and Committees when such services are required. The Council will thereby accumulate and have ready access to all the statistical and factual material that is a by-product of such investigations. Similar arrangements in this country would well deserve consideration.]

Social and Economic Planning Council. Report No. 7. Taxation and Fiscal Policy. Pretoria: Government Printer, 1945. 12½″. Pp. 74. 8*s.* 6*d.*

[A very full and detailed discussion, at a high level of economic competence, of the whole fiscal system of the Union.]

Southern Rhodesia. Fourth Report on the Census of Industrial Production, 1938–1944. Salisbury: Department of Statistics, 1946. 13″. Pp. 38.

[The fourth report of the Census of Industries of Southern Rhodesia. For the first time the gross output of factory and workshop industries exceeds £10 millions.]

Summary of Report No. 7 of the Social and Economic Planning Council entitled *Taxation and Fiscal Policy*. Pretoria: Government Printer, 1946. 13″. Pp. 8. 6*d.*

[This is a much abbreviated summary of the large report noted above.]

Working Party Reports. Hosiery. (Pp. 224. 3*s.* 6*d.*) Boots and Shoes. (Pp. 190. 3*s.* 6*d.*) Cotton. (Pp. 278. 3*s.* 6*d.*) Pottery. (Pp. 49. 1*s.* 3*d.*) London: H.M. Stationery Office, 1946. 9½″.

[To be reviewed.]

AMERICAN.

Office of Economic Stabilization. Report of the President's Committee on the Cost of Living. Washington, D.C.: U.S. Government Printing Office, 1946. 9″. Pp. 421.

[This volume includes a main report by the Chairman of the Committee (Mr. W. H. Davis) and certain reservations by the labour representatives on the Committee together with a large number of supporting documents including appraisals of the cost-of-living index of the Bureau of Labour by a special Committee of the American Statistical Association and by a technical Committee composed of Wesley Mitchell, Simon Kuznets and Margaret Reid.]

FINNISH.

Statistisk Årsbok för Helsingfors Stad, 1944–45. Helsingfors: Municipal Bureau of Statistics, 1946. 9½″. Pp. xvi + 484.

[The Statistical Year-book of the City of Helsingfors.]

INTERNATIONAL.

Bank for International Settlements. Sixteenth Annual Report. 1st April, 1945–31st March, 1946. Basle: Bank for International Settlements, 1946. 12″. Pp. 66.

[To be reviewed.]

Conditions of Private Foreign Investment. League of Nations (London: Allen & Unwin), 1946. 9″. Pp. 45. 2*s*.

[The report of an expert committee of the League that was appointed to study the essential principles that should guide both those who are investing abroad and those who are seeking to obtain capital. They first analyse the incentives to foreign investment and then study problems of transfer and debtor-creditor relations first in terms of fixed-interest investment and then in terms of equity or direct investment. The issues of taxation, employment of foreigners and foreign experts, labour conditions, property laws, public utility concessions all come under survey.]

Fiscal Committee. Report on the Work of the Tenth Session of the Committee. Geneva: League of Nations (London: Allen & Unwin), 1946. 9½″. Pp. 79. 2*s*. 6*d*.

[The main work of the Committee was the drafting of model bilateral tax conventions, which are printed as an annex to this report.]

The League Hands Over. Geneva: League of Nations (London: Allen & Unwin), 1946. 9½″. Pp. 126. 2*s*.

[A record of the final session of the Assembly of the League of Nations, with extracts from the speeches devoted almost exclusively to the question of the measure of success or failure achieved by the League.]

Raw-Material Problems and Policies. Geneva: League of Nations (London: Allen & Unwin), 1946. 9″. Pp. 113. 4*s*.

[To be reviewed.]

The War and Women's Employment. The experience of the United Kingdom and the United States. Montreal and London: International Labour Office, 1946. 9″. Pp. vii + 287. 6*s*.

[This report includes two parallel studies—the first for the U.K. and the second for the U.S.A.—of women's work in war-time. The U.K. section covers such questions as methods of recruitment, part-time work, policy with regard to female employment during the reconstruction period, training, types of work performed, membership of trade unions, farm work, domestic employment, nursing, teaching, work in the Civil Service, the auxiliary services. The U.S. section follows a very similar pattern.]

Wartime Labour Conditions and Reconstruction Planning in India. Montreal and London: International Labour Office, 1946. 9″. Pp. 112. 2*s*.

[This report provides, *inter alia*, the best and most readily available account of the extent and directions of industrial development in India during the war, and of the Government's plans for future industrial development.]

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